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THE PRINCIPLES OF LOGIC

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THE
PRINCIPLES OF LOGIC

BY

F. H. BRADLEY

O.M., LL.D., LATE FELLOW OF MERTON COLLEGE, OXFORD

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BOOK III.—PART I

INFERENCE—*CONTINUED*

CHAPTER I

THE ENQUIRY REOPENED

§ 1. In the Second Part of the foregoing Book we were concerned with negations. We were employed in banishing some views of inference which appeared erroneous. From this negative process we turn with relief, and with the hope of rest in a positive result. But we must not deceive ourselves. The positive result we have already reached, offers a welcome in part illusive, and a rest that is doomed to speedy disturbance. We saw in all inference an ideal synthesis, which united round a centre or centres of identity,[1] not less than two terms into one construction. The conclusion was then a new relation of these terms, and it was by an intuition that we perceived it to exist within the individual whole we had compacted. And this account that we gave was not a false account, for it was true of those inferences to which we applied ourselves. But there are other reasonings no less important, which we then ignored, and which fall beyond it. It was thus a theory provisional and limited in range.

§ 2. And there came a point where we had to transcend it. In negative inference we were forced to contemplate the possibility of retaining the middle (Book II. Part I. V. § 8). If, our construction being reached, we choose to rest in it, if we refuse to isolate a single relation within that whole, if we prefer to treat the entire compound synthesis as the conclusion we want, are we logically wrong? Is there any law which orders us to eliminate, and, where we can not eliminate, forbids us to argue? The question once asked is its own reply, and it rings the knell of a blind superstition which vanishes in daylight.

If so, we have been forced beyond our formula. For the

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conclusion is not always a new relation of the extremes;[2] it may be merely that interrelation of the whole which does not permit the ideal separation of a new relation. And, having gone so far, we are led to go farther. If, the synthesis being made, we do not always go on to get from that a fresh relation, if we sometimes rest in the whole we have constructed, why not sometimes again do something else? Why not try a new exit? There are other things in the world besides relations; we all know there are qualities, and a whole put together may surely, if not always at least sometimes, develope new qualities. If then by construction we can get to a quality, and not to a relation, once more we shall have passed from the limit of our formula.

§ 3. The next Chapter will show that this kind of inference really exists, but at present we must follow the lead of those doubts which it tends to awaken. If our formula is not wide enough, and if we framed it to suit the facts we had before us, it is natural to suspect those facts we trusted in. Are they complete? Are there not other inferences, which we failed to consider, and which, if we considered them, would affect the result? And this question once asked leads to consequences we hid. Though we widened our facts beyond the boundary of the traditional logic, we stopped short of the truth. We desired to inveigle by doubtful promises, and commit the reader to a voyage he could not easily be quit of. We are now at sea where alarm brings no risk, and we may avow the truth that, in our former account, we left out a very great part of the subject. There are large branches of reasoning which we deliberately ignored, and which explode the formula we went on to set up. The following Chapter will detail their nature, and we may content ourselves here with a brief enumeration.

§ 4. Our education in logical superstition leads us first to think of Immediate Inferences. Are they provided for? The syllogism itself perhaps failed to provide for them, but the failure of the syllogism can not be our excuse. No doubt we might appropriate the doctrines advanced by some enemies of tradition, and reply that the so-called Immediate Inferences are not inferences at all, and that we are not required to provide specially for illusions. But I do not think that this

answer will hold. If some immediate inferences seem to be tautologies, yet others are more stubborn. They appear to get to a fresh result, and they certainly do not seem to move in accord with our formula.

§ 5. We have now begun the list of our difficulties, and it does not much matter how we proceed with it. We may take up next the operations of Arithmetic. Addition and subtraction seem processes of reasoning, but they scarcely can be said to present a new relation of extremes existing by virtue of relation to a[3] middle. So too with Geometry: when I prove equality by ideal superposition, is this no reasoning and no kind of inference? On the other hand does it show that terms are related because of a common relation to a third term? However in the end we may answer this question, it certainly seems to suggest a problem which we took no account of. Our formula once more perhaps is not adequate.

§ 6. Then come other difficulties. When A is given us, and we are able to find two further possibilities, A*b* and A*c*, and when again some other knowledge assures us that A*c* is not real—on this we assume that A*b* is fact. We seem here to reason, and to reason with at least a show of correctness, but the form of our inference is not provided for. Even if we assume that it can be reduced to the type we have acknowledged, the reduction is at least a task we have not yet taken in hand. And the reduction may possibly prove not practicable.

§ 7. We are not at an end. When an object AB is recognized as C, the C is added by ideal supplement, and we seem to have a genuine inference. But this inference has not got the premises we required. In the cases which we considered the premises were *data,* but we see here no *datum* beyond the perception. This is once more a ground for amending our formula. And then again we seem to find yet another ground in the hypothetic judgment. Imagine A,[4] and perhaps nothing follows; but suppose A real, and we may then seem compelled to get A–B. This operation suggests enquiry, and it leads us to think of yet another trouble. In the method of Dialectic a result is got by an ideal operation, which hardly consists in the act of putting terms together. Now it may be said that

the method is a pure illusion, but that short way would perhaps prove long in the end, and would lead to enquiries not easy to dispose of. It is better in the interest of logic to ask under what type of reasoning this method will fall; a question which once more may cause a strain in the fabric of our formula.

§ 8. If ideal operations which lead to fresh judgments all claim to be inferences—and this claim, we may be sure, will now be set up—we shall have to consider some other questions which we before ignored. Take first Abstraction; here an operation of analysis is performed on some *datum,* and in conclusion a judgment is got which is concerned with one element of the original whole.[5] Is this judgment which we thus have reached a conclusion? And, if it is a conclusion, will the reasoning fall under the type which we recognize? There is matter here for doubt and discussion, and the discussion seems likely to carry us further. For in Comparison and Distinction we get to results, and we get to them by an ideal experiment. Is that experiment inference? If so, we once more are asked to what type the inference conforms. We may already and by anticipation have provided a place for it, but appearances, I confess, are much against us. We can not off hand dismiss the claim set up by these processes, and we can not easily bring them under our formula.

§ 9. It is clear that our hope, if we had any hope, of a speedy termination, must now be relinquished. We must prepare ourselves to reopen our enquiry as to the general nature of the reasoning process. The next Chapter must go through the mental operations we have here enumerated. It will ask first if they really are inferences, and will next discuss the peculiar nature of each. From this basis we may hope to arrive in the end at some positive result.

ADDITIONAL NOTES

[1] "A centre or centres, etc." But always in the end "*a* centre." Cf. Bk. III. I. V.

[2] "Is not always a new relation of the extremes" should have been "is not always *to* a relation of, etc."

[3] "By virtue of relation to a middle." It would be better to insert "given" before "middle."

[4] "Imagine A, etc." But see on Bk. I. II. § 48, and III. I. II. § 18, and the Index, s. v. *Suggestion.*

[5] "Is concerned with one element of, etc." "Seems concerned with but part of, etc.," would be better. Cf. Bk. III. I. V. § 13. And see T. E. I. and IX.

CHAPTER II

FRESH SPECIMENS OF INFERENCE

§ 1. In the preceding Book we possessed an advantage we no longer enjoy. Those examples of reasoning, upon which we worked, were too clear to be doubted. No unprejudiced mind could deny the fact of their being inferences, and the issue was confined to the question of their principle and inner nature. But at the point which we have reached, doubt is possible on all sides. Not only will the character of the specimens we produce be matter of debate, but their claim to be specimens will be disallowed. We must ask not merely, To what kind of inferences do they belong, but, Are they really inferences at all?

With this prospect in sight a preliminary reflection, before we argue, seems likely to be useful. What test shall we apply, when any claim to inference is sent in? Where the facts are not palpable it will clearly be a gain if we are able to agree to an explicit Canon, for we then shall have something to which we can appeal in the course of the discussion.

§ 2. We may say that inference is the same as reasoning, that to reason without inferring, or to infer without reasoning, does not sound possible. But when do we reason? Do we always reason when a judgment is given as a judgment for which we have a reason? If that reason were taken as a fact merely got by simple perception, then this question would probably be answered in the negative. But suppose our reason is no fact of sense, but is another judgment; not something that exists but some knowledge that we have of it—the answer surely will in that case be different. We should be said to reason where a truth is given as a reason for belief in another truth. In other words where, instead of affirming that S *is* P, we say S *must be* P, wherever we have a *necessary* truth, there is reasoning and inference. We apply the same test in a different form when we turn to the use of "why" and "because." If these have a sense, if it is possible to ask Why,

and then to answer Because, in all such cases we seem to have an actual inference. There is judgment as to which a doubt can be raised, and that doubt is satisfied, not by pointing to a fact, but by reference to a truth. There is a mental operation, in which a result is seen to follow from an ideal *datum*. And we may agree that, wherever this mark exists, an inference is present.

§ 3. And there is another mark which perhaps we may use. Where illusion exists it seems to arise from mistaken inference; for the senses are infallible because they do not reason, and fallacy can come from nothing but inferring. If this is true, then possibility of error means presence of inference, and we may employ the first as a test of the second. But we are treading here upon dangerous ground. It may be denied that, when water is hot to one hand and cold to the other, the mistake that exists is a fallacy of inference;[1] and the denial could not well be discussed in these pages. We can not assume that in every case where error is possible, reasoning exists, and so we are disappointed in our canon; but for all that we have an admitted indication. It will be agreed that, where we discover mistake, we shall not be wrong in looking for inference, and that, to some extent at least, we may expect to find it.

§ 4. Armed with this understanding we may begin at once, and may take up the claims which our first Chapter found were demanding a scrutiny. They make no pretence to exhaust the array of possible applicants, and they enter in no systematic order. Still we hope, and believe, that the worst has shown itself, and we at least do not know of more terrors in the background.

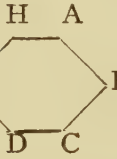
(A) The first to come in are the three-term constructions; (i) those where elision is simply not used, and (ii) those operations where we also go to a quality. What reply shall we make to each of these?

(i) I cannot think of any way by which to escape the claim of the first. If A is given to the right of B, and B again to the right of C, and I therefore judge that the terms are arranged as C — B — A, this is clearly an inference. I did not know it before, and I get it by putting two truths together. And if this is not an inference, why is it an inference when I

go to C — A? No answer can be given; we are forced to admit that C — B — A is inferred; and yet it is not an inference according to our formula.

§ 5. (ii) But there follows close a further consequence. We have reasoned to a whole C — B — A, and this whole may have a new quality x. But, if so, we have reasoned from terms in relation, C — B and B — A, to no new relation but to the presence of a fresh quality;[2] and hence once more our formula has broken down.

A friend of our youth may be called upon here to supply us with an instance. I sail round land, and reconstruct my course by a synthetic process, and the whole shore that I combine is then interpreted as belonging to an island. A — B, B — C, C — D, D — F, F — H, H — A become, when united,



; and from this circular frontage I go to the name and to the other qualities possessed by islands. I may be told in reply that the name and the qualities, if indeed there are such, do not come directly from the construction itself, but are got by a further and additional premise that does not appear. And this, I admit, is true altogether of the name, and true in part of the other qualities. But it still leaves something which comes from the construction, and which comes directly. The circular shape and self-contained singleness are more than the mere interrelation of the premises, and need not be got from previous knowledge of islands. You do not go outside the construction to get them, the whole would not be itself without them; and yet they are another side of that whole, which is distinct from the putting together of the parts. But, if so, surely you have reasoned to a quality.

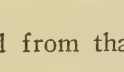
At some time, I presume, we have all been visited with the pleasing pain of hanging our pictures and arranging our furniture. How many combinations were we forced to reject, until we came upon one which would do. But these attempts were all inferences from hypothetical *data,* and we went from the construction direct to a quality, and so to a judgment. If the quality was æsthetic that made no difference; for we did

not say of the whole psychological image, That now hurts me, or gives me a pleasant sensation. We said of the content, which we had in the premises, That leads and must lead to a certain result. And this was an inference, which certainly fell outside our formula.

It is clear, I think, that when trying experiments in the actual world by combining and dividing real things, or by drawing upon paper, we may be surprised by qualities which we did not anticipate. And the same must be true of ideal experiment.[3] In both cases, the interrelation being given, we perceive a quality which comes from that, and which is more than and beyond the bare interrelation. But in the second case the construction, being got by an ideal process, is itself an inference, and its result is also nothing but a conclusion. But it is not any fresh relation of the original *data;* it is an issuing quality.

§ 6. It seems clear that reasoning does not always give us a new relation of the terms we began with. Our formula has now too palpably lost its virtue; and virtue being gone, we may proceed less anxiously. The advances of those more audacious claimants, who showed their heads in the foregoing Chapter, may be calmly received. There is no longer any absolute presumption against them, and the reception of each is a matter not of principle, but of choice and convenience.

(B) In this spirit we may meet the approaches of Arithmetic,[4] the claim of which I will bring in indirectly. An introduction is certainly not required, but it may serve to make the change less startling.

We saw long ago that, when spatial relations with points of identity were forced on our attention, we could put them together and find a new relation. We have lately seen that, instead of a relation, these premises could supply us with an unknown quality. Given lines A — B, B — C, C — A, we can construct 

and from that construction get the quality possessed by a certain triangle. In this case the conclusion is categorical and necessary.

But there was something else which we hardly glanced at. We may have three lines such as A — B, C — D, E — F.

In these, as they are given us, there are no points marked identical, and we have no given reason for putting them together. But we may do so if we choose; if their lengths do not forbid it, we may arrange them ideally, combining them into the form of a triangle, and thus endowing them with a certain quality. We have here an intuition which follows on a synthesis, and the doubt which arises is, Have we an inference?

If we have one what is it? It is not "AB, CD, EF have *x*." That would be false, since they *are* not combined, and since they *have* not together any quality at all. And again the inference can not run thus, "AB, CD, EF, when their terminal points *are* identified, have *x*." That certainly is true, but then it is not an inference. For, though the quality is perceived in an ideal arrangement, it has not been got by it.[5] The combination in this case would not be such a construction as was *made* to get the judgment, and therefore connects the judgment with the original *data*. The judgment is passed on a whole that is *found*, and it says nothing about the ideal composition of that whole. And for this reason it can not be a *conclusion*.

The real conclusion is "AB, CD, EF may be combined, and when combined they have a quality *x*," or "If AB, CD, EF are manipulated in a certain way, they give rise to *x*." The lines *plus* my arranging activity are the premises, and the construction with its quality follows.

This has all the marks of inference, but it obviously differs from the inference we got from A — B, B — C, C — A. In this case the construction follows from the *data* themselves,[6] but in the other example it does not follow, unless an arbitrary arrangement of my own is added. My free manipulation has taken the place of the compulsory synthesis through identity of the terminal points B, C, A. The lines *need* not have any point that is identical, and I am not *obliged* to put them together. The premises are hypothetical, and the conclusion is thus arbitrary.[7] But it still is an inference, for if the lines are combined, then the quality must come *because* they are combined.

§ 7. This foregoing section has been no digression, for we may consider both addition and subtraction as cases of the process we have just sketched. Let us clear our ideas by

asking what we mean by the simple proposition "Twice one is two." Do we mean to assert that one unit and another unit *are* the integer two? Such a statement would be false, for the integer is more than one unit considered along with another unit. There is a quality in the whole, which belongs to the units first when combined and made into an integer. It is false then that "one and one *are* two." They *make* two, but do not make it unless I put them together; and I need not do so unless I happen to choose. The result is thus hypothetical and arbitrary.

§ 8. There is a mistake we must correct before we proceed. The reader may (or may not) be aware, that the logical and temporal relation which exists between degree and quantity is a difficult subject.[8] It is a question that could not be fully discussed in a narrow compass, and on which we can offer but a brief observation. You may use "degree" in more than one sense. You may understand by the term a scale of qualities which are related explicitly to a scale of quantities, and which depend on this scale. Or again you may mean a scale of differences, which are simply felt as more or less of a certain thing, but which are not referred to any scale of numbers of units. If we adopt the former sense of degree, then both in time and logically the knowledge of number, or the power of counting, precedes the knowledge of that scale of intensities which stands in explicit relation to the varying units. Quantity here will precede degree. But, if we use the latter meaning and understand by degree the mere vague sense of a more and a less, of a rise and a fall, a swelling and a shrinking, then without any doubt degree comes first and quantity follows.

The mistake we referred to springs partly from the neglect of these metaphysical abstractions, and partly from blindness to palpable facts. It is assumed, that the perception of differences in quantity implies the power of counting units. There is a well-known tale, not worth repeating, of the experiment which proves that a magpie can count up to two or three, but not any further.[9] Thus if three men go in and but two come out, the bird knows that all have not been accounted for, and therefore it counts. But if so, and if the power to perceive the difference of more food and less food, a larger

beast and a smaller beast, demonstrate counting, few animals will *not* count. If again the ability to distinguish part from the whole, and, when but part appears, to expect the rest, shows the practice of arithmetic—then the higher animals are all arithmeticians, and all habitually add and subtract. This perhaps may not seem a *reductio ad absurdum,* but then this is not all. Though the higher (and even lower) animals can all count, there are races of men who can hardly count at all, and are only beginning in the rudest way. But these very savages, who are staggered by the difference between three and four, and are thus led into errors which would never occur to an average dog—on the other hand count much better than we could. Take one from a flock of forty sheep, and in a moment they perceive the difference. They have finished counting before we could have begun. And on this view of the subject I think it is clear that there is something unexplained.

The mistake lies in the failure to see that number, in the proper sense, is a late product of abstraction, and that, long before this could come into the world, the perception of more and less, of the whole and the parts, already existed. They existed in an unanalyzed *qualitative* form.

§ 9. Now this observation has important consequences, for it points to the conclusion that, in considering number, we have no right to strike out the qualitative side. If the confused feeling of difference in degree between wholes came first, and these wholes were then afterwards analyzed into parts, and these parts were then once again reduced to equivalent units—if this was the psychological process, as I think we may agree it clearly must have been—then I venture to argue that this shows we are wrong, if we take quantities to consist in nothing but units, somehow taken together and barely co-existing. Even when we get down to abstract number, each integer must be more than units and units. As an integer it will have an additional quality which results from addition and disappears on subtraction. One and one are not the same as two, two and two are not the same as four, nor are they the same as three and one. For integers are individuals; each has an unity which makes it a whole, and joins together its units by a higher bond than mere co-existence before the atten-

tion. If that bond is a residuum of spatial perception or comes from elsewhere, we need not here consider. Enough that it exists, that each integer is one whole, with qualitative relations of higher and lower persisting between it and other integers. Hence we may say that mere counting *is* not the integers; it does but *make* them. It progressively produces and destroys them as it goes up and down the scale.

The integer then is different from its units. To say of the units that they *are* the integer, is not a tautology but a downright false statement. That they *become* the integer, on the other hand is true and is not a tautology.

§ 10. Addition and subtraction produce new results; they are ideal operations which give conclusions, and justify what they give; they are palpable inferences. The reasoning which they employ no doubt may be very simple in its nature and very easy to disparage. "It is the work of a machine," we may hear the reproach, "and not of a brain." But if, starting from certain *data,* it is a brain that by means of ideal experiment procures a fresh judgment, we must call this reasoning; for we do not know what else we can call it. And the reproach, we must add, betrays a prejudice that is not philosophical.

The operation is the analogue of that arbitrary arrangement in ideal space which we mentioned above (§ 6). We start with the units one and one, we freely rearrange them, and we end with the result of integer two. But the result is hypothetical, for we can not say, one and one *must* give two. They *may* be arranged in such a way that two must appear, or, if I choose to manipulate one and one, then two comes out. Hence there is nothing categorical. One and one, if I leave them alone, are one and one. I may handle them or not at my private pleasure, and when I handle them, I need not add them. They do not necessitate their own addition, it is only when I add them that necessity appears. But *then* they must become two, and I have made an inference.

This is still more patent if we consider subtraction. We might say "Three is one," or "The integer three is one of its units;" and of course such a proposition would be false. But the integer turns of necessity to one unit, when I first break it up and then set aside two of its component parts. Three,

if two be subtracted, is obviously one; but this result is hypothetical. We are not obliged to analyze the *datum* and to set part on one side; and we are in no way compelled to get the conclusion unless we have taken this arbitrary step.[10]

§ 11. These inferences, it is clear, will not come under the formula we set up. They suit it no better than did that ideal arrangement of wholes in space, which gave a new quality. But we need not dwell on this point, for there is something which presses for more serious attention. "The above account," it may fairly be said, "is not a right view of addition and subtraction, for these give a conclusion which is true categorically. Arithmetical judgments are in no sense arbitrary, nor, given the *data,* is the inference conditional. Bricks and mortar, if the builder choose, may make a house; but one and one *are* equal to two, whether we choose or do not choose to have it so." I admit the distinction and desire to endorse it, but it is in no sense contrary to the statement we have made; for, up to this time, we have never said a word about *equality*. What we wanted was to emphasize a side of arithmetical processes, which, if neglected, makes them obscure or tautologous; and, whatever else is right, it still remains true that addition is an inference of the kind we described. It does prove hypothetically that, if units are added, they *become* something different; and for the right understanding of the subject this truth is all important.

Having made this clear, we may now proceed to regard the process from a different side, and to consider it as a categorical proof of equality in difference.

§ 12. What is equality? It is certainly not the same as mere identity, nor would it be safe for any one except a "powerful thinker" to be guilty of such elementary confusion. Because things are the same they need not be equal; and when they are equal, they need not be the same in more than one aspect. Equality is sameness in respect of quantity, it is a relation between things that may otherwise be different, but are identical in regard to their number of units. Or, more accurately, we may call it the identity of the units, as units, in two different things. This definition certainly gives rise to problems which in another place I should be glad to discuss; but for present purposes it will be found sufficient. One and

one are equal to two because the mere units in both are the same, and three *minus* two is equal to one because on both sides the unit is identical.

This result is true, and it seems categorical, and we therefore are led to ask once more how we reach the result. If the conclusion is *not* hypothetical, were we right in taking the operation to be arbitrary? Yet, on the other hand, how do I know that one and one are equal to two? I know it because when I add the units, they *become* two, and when I analyze two it *becomes* the units. I thus see the identity of the units throughout, but I see it in consequence of a free manipulation which I might have omitted. So again in subtraction I infer that $3 - 2 = 1$. But how do I reach this? I break up the three into three separate units; I break up the two in the self-same manner, and, removing it, I perceive that two units of the three have been removed. One is left, and that as an unit is precisely the same as any other one. The conclusion is necessary, but the operation is optional, for there was nothing which demanded my analysis and comparison. The result has thus depended on my arbitrary choice.

§ 13. We seem left with this difficulty—the result is unconditional, though the process on which it depends is arbitrary. And this difficulty for the present must be simply accepted. We are indeed only too ready to accept it or ignore it. The operation in arithmetic, which gives the result, is supposed to have no influence upon it; there is a postulate that, so long as you do not alter the number of the units, you may do what you please with them, and whatever you bring out is unconditionally true. The process is a mere preparation of the *data,* and it demonstrates an element which already was there. It is not an arbitrary alteration of my own, since it does not alter the element at all; it constructs no artificial and novel spectacle, it does but remove an obstacle to my vision.[11]

In other words the relation of equality between any quantities is supposed to *exist,* and the judgment which expresses it is supposed to have independent validity. Whether I see it or not, it is taken to be true, and the way in which I get to it affects it in no way. Thus my inferring is optional and entirely arbitrary—but the inference itself is eternal truth. It is my process from a *datum* which enables me to see what

is true of that *datum,* yet it is only my insight, and it is not the truth, which depends on that process. One and one = two, not because I add them, but because they *are* equal.

§ 14. The general relation of the ground of knowledge [12] to the ground of reality will vex us hereafter, and we will not anticipate; for our present task is simply to find the process which is used. It consists, as we have seen, in a free rearrangement, resulting in a perception of quantitative identity, which is taken as true independent of the process. The new result, which is got by experiment with the units, is held valid of those units apart from the experiment. And we do not propose in the present chapter to question this result; but, the process being such, our wish is to know if it really is an inference, and again if it will come under the formula which we first accepted but now hold suspect.

That it really is inference we can not long doubt. We might indeed dispute for ever about "twice one is two"; for, when a product has been learnt before it was understood, and now comes to the mind as so ready-made, self-apparent, and obvious, it is hard to see that it ever has been a painful inference, a slow result of time for which ages had to wait. But more complex instances soon convict us of our error. The moment we desert the table we have learnt, we find there is a process which proves the result, and in which mistakes are only too easy. And this process is the movement of an ideal experiment which gives a judgment we had not got before. But, unless we have somehow apart from the facts decided in our minds what reasoning is to be, then this must be reasoning and its result must be an inference.

But is it an inference according to our formula? That at least it can not be, for it establishes no relation between the terms of the premises. On the contrary the relation, which appears in the conclusion, has one terminal point which never appeared in the *data* at all. Our poor formula at this rate will hardly be able to claim respectful treatment in the future, and what presumption there is seems against its virtue.

§ 15. Spaces and times admit of treatment by a similar process. If an optional arrangement of superposition, division into parts, or construction into a whole by arbitrary additions, results in relations of equality or inequality, this result is taken

as a categorical conclusion. The alterations which we introduce do not alter the fact as long as they do not alter the magnitude; and it is a postulate that no change of place or context, no analysis or synthesis, can make any difference to the relations of quantity. The operations (we assume) are external to the *data* themselves; the work done upon them is really work that falls outside them, and that but renders them apparent as they were before. The truth is shown to us by a process which does not give the reason why the thing actually *is* so. The demonstration removes a barrier from our sight, or provides us with artificial vision, but it does not produce the fact from its elements.

Yet we can not doubt that here once more we have an inference; an inference again which we have failed to provide for, since it can not be reduced to interrelation. When I show, for instance, by superposition that one triangle is equal to another, what third term is it that connects the couple, or what syllogism will express the actual process? I know that an application of reckless torture will reduce anything you please to any possible form; but the fact remains otherwise. We have here an intuition of comparison, taking place by means of free ideal rearrangement. This is an inference, and it is a new kind of inference.

§ 16. (C) And new itself it suggests fresh innovation, for it leads us to ask if *comparison*[13] is reasoning, and if, whenever we compare, we may be said to infer. The suggestion is contrary to our established ideas, but how can we repulse it? We start from *data,* we subject these *data* to an ideal process, and we get a new truth about these *data.* The new truth, so far as our knowing it is concerned, depends on the operation, is because of it, and would not be unless for that reason; but, if so, we surely must call it a conclusion.

Take an instance; we have ABC, DBF, and we may not know that they are the same in any point. We then inspect them with a desire to discover sameness, general or special; that is we attend to them from a certain point of view. We compare them in respect of identity, either in quality or quantity or again in some more special development. No doubt it is not easy to lay down the precise character of the process employed, but there certainly is some process. There is an

ideal operation on ABC, DBF, and that operation presents us with a judgment. We did not know that ABC, DBF were alike; now we know that they possess the point B in common, and this intuition depends on the operation. The conclusion runs "If ABC, DBF are compared they are alike in B;" and, since the operation is assumed to make no difference to the fact, we may say categorically, "The two *are* alike." No doubt we may question the validity of this inference, but I do not see how we can deny its existence. On the other hand it is not a relation between two given terms that is seen in a construction through identity.

We shall perhaps not be wrong to place under this head the copulative process.[14] "A is C, B is C, and *therefore* both are C." So far as this connects, and does not barely conjoin, it concludes to an identity between A and B.

§ 17. And what holds of the comparison which establishes identity, must hold too of the process which brings out difference. If distinction is an ideal operation which demonstrates new truth, that is truth new *to us,* then so far it must be reasoning.[15] We may illustrate simply; what is really $B^1B^2B^3$ has been taken throughout as simply B. We subject this *datum* B to an ideal process, the nature of which we do not at present discuss, and the result is $B^1B^2B^3$. Now since the operation is arbitrary the product is hypothetical, but because once again the operation is assumed not to alter the *datum,* as it really is—we take the product as categorical. The marks have been found, and therefore they are. True there is no distinction unless things are first different; but for us there can be no difference which does not follow on distinction. It becomes apparent and is shown to exist by virtue of a process, which must therefore be taken as a demonstration and a genuine inference.

A difficulty, we admit, besets the operations of distinction and identification; for they do not, it may be said, give the actual reason of the real truth in which we are finally landed. Nay, they do not even profess to give it, and we may say that they even protest above all things that they demonstrate nothing that was not there without them. This difficulty, which has bearings we perhaps do not suspect, will engage us hereafter. But for our present purpose we must insist on the

other side of the process. We have reached a result by ideal experiment; and of this we can say, Though it be not *made* true by our operation, yet we *know* it for that reason, and it is *for us* because of *our* activity.[16] But, if so, then once again we have reasoned.

§ 18. (D) It would seem that we may reason, though we do not give the reason of the fact itself, and when our demonstration less establishes than recognizes. Mere consistency now prompts us to raise the doubt if *recognition*[17] is not always reasoning. And perhaps to our surprise we discover that this is really the case, for to find that AB is C, and to recognize it as such, implies a process of ideal redintegration. I start with AB, and the function of ideal synthesis BC supplies the construction from which I proceed. Even where I merely recall the name, or where I can but say that somewhere I must have seen that face before, there is still a conclusion. The connection may be dim and the element that is added may be trifling or obscure; but whatever it is, we get it by a synthetic process of restoration, and this is reasoning.

"Yes, reasoning," I may be told, "but normal reasoning and with the usual three terms. First AB and BC, then a whole ABC, and an elision leaving the result A — C." But, I answer, in what sense is BC a premise? It is by no means an original *datum*. Indeed it is not a *datum* at all; for it is a function which does not come before the mind, but which presents the result of its action on the only *datum* that we possess. If BC is a premise, it is a premise in no usual sense of the term. We have at any rate found a case that has not been yet provided for, and a case where the inference seems quite indisputable.

We may add to this section a remark on the hypothetical judgment.[18] This is always an inference. I do not simply mean that it is an inference, when we first say, "If anything is B it is C, but here A is B, and therefore it is C." The inference I mean is one which dispenses with the explicit statement of the general principle. A is merely supposed; it is offered in experiment as an attribute of reality, and from this we go on to arrive at C without any other premise which comes before the mind. This process is, I think, an inference of a kind we did not anticipate; but it hardly can claim

an independent position. Where it does not fall under the foregoing head of Recognition, it will find its place in the ensuing section.

§ 19. (E) The subject of this section is forced upon us. I should be very glad in a work of this kind to say nothing about the Dialectic Method, but I can find no excuse for passing it over, for it is irresistibly suggested by the inference which we had to notice last. I am far from implying that the Method falls under the previous section, and that it is a mere process of recognition. Such a view, if adopted, would annihilate its claims, and my object is here not to criticize or to advocate. I wish simply to consider what sort of operation is performed by Dialectic, assuming that it has a real way of its own.

If we make that assumption, we pass naturally from the process of Recognition on to the Dialectic movement. Like recognition this starts from a single *datum,* and without the help of any other premise it brings out a fresh result. Yet the result is not got by mere analysis of the starting-point, but is got by the action of a mental function which extends the *datum* through an ideal synthesis. So far the method of Dialectic is precisely the same as the common recognition which works by means of redintegration. But now comes a difference; the ideal synthesis, which in Dialectic meets and supplements the starting-point, is not reproduction from past perception; or rather, and to speak more correctly, it is not *merely* such ideal reproduction. Even though the synthesis which it brings into play does repeat a connection we have got from presentation, there still is more than bare repetition. The function is felt not as what the mind does because it has thus been trained to perform it; the naturalness seems more than the ease of habit, and the necessity above any *vis inertiæ.* And the cause of the difference we find is this; the message in the one case seems external tidings which are so believed, since thus received; but in the other it seems like a revelation of ourselves, which is true because we have the witness in our own experience. The content in one case, itself irrational, seems to come to our reason from a world without, while in the other it appears as that natural outcome of our inmost constitution, which satisfies us because it is our own selves.

This *internal* necessity, of the function and of its product, is the characteristic of the Dialectical Method and constitutes its claim and title to existence.

§ 20. I do not propose to criticize that title, and prefer to attempt the removal of misunderstandings. One of these we have already noticed; you make no answer to the claim of Dialectic, if you establish the fact that external experience has already given it what it professes to evolve, and that no synthesis comes out but what before has gone in. All this may be admitted, for the question at issue is not, What can appear and How comes it to appear? The question is as to the *manner* of its appearing, when it is induced to appear, and as to the special mode in which the mind recasts and regards the matter it may have otherwise acquired. To use two technical terms which I confess I regard with some aversion—the point in dispute is not whether the product is *a posteriori,* but whether, being *a posteriori,* it is not *a priori* also and as well. And misunderstanding on this head has caused some waste of time.

The second misunderstanding is of a different nature. An idea prevails that the Dialectic Method is a sort of experiment with conceptions *in vacuo*. We are supposed to have nothing but one single isolated abstract idea, and this solitary monad then proceeds to multiply by gemmation from or by fission of its private substance, or by fetching matter from the impalpable void. But this is a mere caricature, and it comes from confusion between that which the mind has got before it and that which it has within itself. Before the mind there is a single conception, but the whole mind itself, which does not appear, engages in the process, operates on the *datum,* and produces the result. The opposition between the real, in that fragmentary character in which the mind possesses it, and the true reality felt within the mind, is the moving cause of that unrest which sets up the dialectical process.

§ 21. We may understand that process in two different ways. On one view the method advances on the strength of negation; the synthesis, which unites and adds a fresh element, comes always from denial, and from the *contradiction* of the starting-point. Every truth is taken to have two sides, and to consist in the assertion of a pair of correlatives, each of which

is the logical negation of the other. Each of these by consequence, to assert itself, denies the other; but at the same time each depends on what it denies, and so reasserts it. Affirming itself, it thus on the other hand is driven to affirm its own negation, and so becomes its own opposite by a self-seeking self-denial. Or, more correctly, the whole, which is both sides of this process, rejects the claim of a one-sided *datum,* and supplements it by that other and opposite side which really is implied—so begetting by negation a balanced unity. This path once entered on, the process starts afresh with the whole just reached. But this also is seen to be the one-sided expression of a higher synthesis; and it gives birth to an opposite which co-unites with it into a second whole, a whole which in its turn is degraded into a fragment of truth. So the process goes on till the mind, therein implicit, finds a product which answers its unconscious idea; and here, having become in its own entirety a *datum* to itself, it rests in the activity which is self-conscious in its object. This great ideal of self-development and natural evolution led in Hegel's hands to most fruitful results, and in the main these will stand when the principle of negativity is rejected as an error.

For the Dialectic Method does not necessarily involve the identity of opposites, in the sense that one element in its own assertion supplements itself by self-denial; and it is possible to take a simpler view which keeps clear of this difficulty. We may suppose, as before, that the reality has before it and contemplates itself in an isolated *datum.* What comes next is that the *datum* is felt insufficient, and as such is denied. But in and through this denial the reality produces that supplement which was required to complete the *datum,* and which very supplement, forefelt in the mind, was the active base of the dissatisfaction and the consequent negation. The important point is that, on this second view, both sides of the correlation are positive, and one is not the mere denial of the other. The presence of either is inconsistent with the absence of the other, and it is inconsistent with the solitary presence of the other. Thus either by itself is denied, not *by,* but *from the ground of* its positive counterpart, which in that denial makes itself conscious and so comes to light. I am perfectly aware that this doctrine is a heresy;[19] but it is a heresy which,

I think, will be found to save the real substance of the orthodox doctrine.

§ 22. We are not concerned here with the truth of this heresy, and we turn to the question which is really in hand; In what sense is Dialectic an inference?[20] It certainly is reasoning, which by an ideal operation gets a fresh result. Take a *datum* α, and by your operation you get α-β with a further result γ. The conclusion here is, that α must be β, and therefore it is γ. And because the operation is not arbitrary, because throughout it keeps to reality, you have no hypothesis. For your middle is not something you have chosen to make; it is wholly necessary, and hence you may end in the conclusion α *is* γ. We need hardly ask if our original formula provided for this inference.

§ 23. (F) We next may take the process of *abstraction*.[21] In recognition we used a function of synthesis which was clearly universal, and it is natural to ask how this function is acquired. If it comes from an operation of analysis and abstraction, we are thence led to ask whether such an operation must not be an inference. For it is an ideal experiment which procures a new result. We start here with a given whole *abcd;* we operate on this by the neglect of or by the removal of *bc,* and *ad* is left; and we then predicate this *ad* of the reality. The real was *abcd,* and in consequence of our action we know now it is *ad*. The nature of the process by which we remove what seems unessential, need not at present be discussed, but it is certain that there is some process, and that the result of this process is accepted as truth for no other reason. And once again it is true that the experiment is arbitrary,[22] for we need not perform it, and it is not supposed to make a difference to the fact itself. Still it makes a difference to our knowledge and judgment, it supplies the because of a new perception, and it has therefore the mark of reasoning and inference.

§ 24. We have first analysis, then elimination or elision of part of the content, followed in the end by a positive attribution of the remaining content to the original subject. The operation is familiar and is largely employed, but its validity is open to grave objection. We shall consider this hereafter, but may remark at present that the doubt is whether by your

elimination you have not fatally altered the subject. By removing one element you may destroy the condition which made the rest predicable. Our old friend, J. S. Mill's so-called Method of Difference, fell into this blunder, and may serve us as a warning (Book II. Part II. Chap. III.). Reality was first ABC — *def*, then BC — *ef*, and we assumed that, if we elided BC — *ef*, we should leave A — *d* standing good of reality. But here (we may repeat) were two errors. Suppose first that our *data* are pure universals,[23] still you have not experimented with that very BC which goes with A. You have worked with a second and an other BC, and you can not be sure that there is not a difference in the way in which they operate. The first BC may give something to A, and get something in exchange, so that A may be concerned in the first *ef*, and BC be partly concerned in *d*. This unconsidered possibility wrecks your proof; and your Method of Difference is self-condemned, since it is not a method of the *only* difference.

And your error is not single; for you have withal ignored the fundamental difficulty. How can you procure your pure universal ABC — *def* without using to get it a process of elision, a "method of difference," which is still more precarious? Your premises, "Reality is ABC — *def* and BC — *ef*," are the products of an abstraction which has separated these elements from a mass of detail in which they appeared. This original process, what justifies that? What tells you that the detail, which you cut away, is wholly irrelevant, and that, without it, the reality is still just as much ABC — *def* and BC — *ef* as it was before? This objection is as fatal to the foundation of the Method as the former was to its superstructure. It points to the result that a product of elision is always to be received with the gravest suspicion; and with this result we must at present be satisfied.

But, valid or invalid, abstraction is reasoning; and it does not appear to come under the head of any foregoing process.

§ 25. (G) We have not yet reached the end. In the account, which in our First Book we gave of the Disjunctive judgment, we observed that it contained a latent inference; and the time has now come to draw this to the light.[24] We might indeed be tempted to dispose of the enquiry by reducing the process to a three-term inference. "A is *b* or *c*, A is not

c, and therefore it is *b*"—the reasoning here, we might say, is syllogistic, and falls under the type, "A not-*c* is *b*, A is A not-*c*, and therefore A is *b*." But this attempt would be futile,[25] since the reduction presupposes that the alternatives are stated explicitly, in the character of exclusive alternatives. But the question as to how we become possessed of this explicit statement, remains thus unanswered, and we shall find that it comes to us by way of an inference that is not syllogistic. The syllogism is not the soul and principle of disjunctive reasoning; it is an artificial way of expressing the product and result of that reasoning (Chap. IV. §§ 6, 7).

§ 26. Before it in time and before it in idea comes the actual process, and we must see what this is. We know that A may be *b*, and again may be *c*, and once more may be *d*; we know that it is nothing which excludes all three; and we may call this our starting-point. We then go on to learn that A is not *b*, and we conclude that therefore it falls within *cd*. Once more we find that A is not *c*, and on this we conclude, *therefore* A *is d*. We have here an obvious and palpable inference, but in what does it consist? It consists in removing the possible predicates of a given subject until the residue is self-consistent,[26] and in then passing at once from this residual possibility to an assertion of its reality. One possibility is left, and therefore that is fact.

Our inference is not got by arguing from the major "What is not *b* or *c* must be *d*," and that major does not give the proof of our conclusion. On the contrary our process is the ideal experiment which proves this major. We know that A, which is not *b* and not *c*, must be *d*, only because we have tried and have seen that *d* comes out as the result. Thus our major, if we had one, would be the principle that a sole possibility must be actual fact. But then this again is not given as a premise, and we do not argue because we know that this is true. We know it is true because we have argued, and itself is the result of ideal experiment.

§ 27. And even this principle is not quite fundamental. For it presupposes a judgment that we have before us an explicit exhaustion of the possibilities of A. One step of our reasoning consisted in the statement, that *b*, *c*, and *d* are the whole sphere of A, and that A must fall (if anywhere) within

this sphere. But the earliest form of disjunctive reasoning dispenses with such a preliminary statement.[27] Incompatible suggestions with respect to A come before the mind, and the suggestion which survives in that ideal struggle is accepted as fact. Thus we go direct to the assertion without any declaration that our previous denial has exhausted the subject. We shall return to this process when we begin to sketch the beginnings of inference in the lower stages of mind, and at present we must content ourselves with saying a few words on the principle which underlies this early operation.

There is an axiom[28] which we can not fail to use, however little we may be aware of its nature or existence. All suggested ideas, we assume, are real, unless they are excluded. If an ideal content is discrepant with reality, then it is not fact. If again it is discrepant with another content, then both are, at present, not yet real. The suggested idea is so far possible; but if nothing is found incompatible with it, the idea is held actual. Thus all suggestions are true unless they are opposed, and the suggestion, which maintains itself in ideal experiment, and abolishes incompatible ideas, has *demonstrated* its own validity. The survivor from the struggle of competing ideas has shown itself fittest, and it *therefore* is the truth. This ominous *dictum*, which contains the soul of disjunctive reasoning, awakens our scruples, and when we discuss the validity of the process it gives rise to, we shall have to weigh these scruples in the balance. In this place it is enough to have shown that once more we have found an operation, which is not three-term reasoning, and which yet lays claim to the title of inference.

§ 28. It is worth our while to pause for a moment, and to see the extent over which this principle operates. Any judgment whatever may be turned into reasoning by a simple change. For we have merely to suggest the idea of the opposite—we have only to suppose that the truth is otherwise, and at once the predicate, which we already possess, excludes that suggestion and returns to itself as what *must be* true. It now is real *because* it must be so; and it is a *necessary* truth, for it has entered the field of ideal experiment and has returned victorious. The process seems frivolous, since it turns in a circle; we return to the place from which we set out, and

the predicate of necessity but adds the idle form of "It is because it is" (cf. Book I. Chap. V. § 29). We first degrade our judgment to a mere idea, and then assert the idea on the strength of the judgment. But this process, circular when we apply it to judgments, is very different when used on mere ideas. Take any idea, no matter what it is, suggest it of the real and find it compatible; bring it into collision with the other ideas which are discrepant with itself, see that it defeats them in open competition, and then go on at once to assert its truth—this alarming process appears to have no limit. Yet valid or invalid, it certainly is inference. Whether we explicitly state the possibilities as exhausted, or simply ignore their possible enlargement, we have in both cases reasoning of a type that does not fall under any other head.

§ 29. We may add the remark that apagogic inferences belong to this class, for, whatever intermediate steps they may employ, they in the end must turn on a disjunction. They make a transition from the denial of one predicate to the assertion of another. And that transition assumes that no other possible predicate exists. The large amount of vicious reasoning which attends the use of the indirect method, is mainly due to forgetfulness of this fact. The bad logic which abounds in philosophical discussions consists in great part of conclusions based upon hasty disjunctions.[29] And perhaps no writer can hope entirely to escape from this error, for the process, in which we are most likely to slip, is at times unavoidable.

§ 30. (H) We have nothing now left but our old friends the so-called Immediate Inferences.[30] And these have given cause for scruple; doubt extends not only to the nature and principle of their procedure, but even attaches itself to their actual existence. If they are mere tautologies, rearrangements of words without alteration of ideas, they can not be inferences. And some of them appear to be little else. To argue from "A is B" to "Some B is A" gives rise to suspicion, and that suspicion is deepened if we infer that B is equal to A because A is equal to B, or that A must be to the left of B, since B is certainly to the right of A. We may ask in these cases what new conclusion comes from the process. On the other hand if, given that A is B, we are offered the assertion

"Not-A is not B," we decline to receive this erroneous addition.[31] We should call it a bad inference, and should hence be compromised when invited to deny that the legitimate "Not-B is not A" is an inference at all.

We need not enter on the thankless task of enquiring in each case if the inference is real or is simply circular. For no logical principle is involved in this controversy, and it will be enough to show that, given the validity of the immediate inferences, we have already laid down those types of argument under which they will fall. In any case they will make no addition to those classes of reasoning which we have already reviewed.

§ 31. Where the so-called inference repeats the assertion from which it started, there is nothing to be said. From A = B to proceed by proof to B = A is an impossible process. In each case you possess the same relation of A to B, and the order in which you take those terms is perfectly irrelevant. Hence the alteration which is made is psychological, not logical, and is concerned with nothing but the verbal expression.

Let us take another case where the process seems doubtful. It is not easy to answer off-hand the question, if "No B is A" is a mere repetition of "No A is B," or if "Some B is A" is a real advance on "A is B." But suppose that these are inferences, they both fall under heads which we know already. If, given one truth, you perceive another implied or contained in it, this process is analysis followed by abstraction. And what falls outside this is an inference from disjunction. If to perceive for instance that Not-B is not-A, an experiment is required which goes beyond the inspection of "A is B," the process in that case will be indirect and the reasoning apagogic. I will illustrate these general observations by some remarks on the detail of Immediate Inferences.

§ 32. If we consider first the immediate conclusions from affirmative judgments, we shall find a good deal which excites our wonder. The ambiguity which besets the word "some" brings disgrace on this part of the traditional logic; and behind this ambiguity there is something hidden which will hardly bear the light. Let us take the judgment as assertorical, "All A is B." What is it, we may ask, that the inference gives us, save this same relation over again? Take the judg-

ment first in extension as "All the A's are all the B's;" is it any news to be told that also "All the B's are all the A's"? Is it not the old relation once more? Or if you know that the A's are a part of the B's, are you further advised when you learn that a part of the B's are the A's? If again from "All the A's are all the B's" I am ordered to conclude, that they are *at least a part of the* B's, I must ask for information. To what am I committed by this doubtful formula? If it means that a collection, being taken distributively, *is* taken distributively, that, if I have seen *a,* and have also seen *b,* and also seen *c,* I must therefore have seen each—then where is the inference? But if it means that what is true of a lot is true of some or each component part of that lot—then the inference is vicious, and the lot again is perhaps hardly taken in its extension. And if I am invited finally to argue that, since I am certain of each, I therefore am certain *at least* of some, since that may be true even though I can not be sure of each, then I must answer that you seem to be suggesting that I should doubt my premise upon the ground of its certainty.

If again you do *not* take the predicate in extension—if you argue Because all the A's have a quality B, therefore some things which have the quality are all the A's—I can not see how you have advanced one step. You know already that there are things which have a quality B with a quality A, and what more do you learn? Your "*at least* some B's are A's" is not a positive conclusion at all. If it is neither tautologous nor downright false, it is a caution to yourself *not* to make an inference of a certain kind. It says, "I have a certain relation which I must not go beyond; to dispense with the 'some' would be wanton temerity, and to say 'at most' would be unauthorized despair. The right state of mind is a doubtful hope, or an expectant ignorance." But this is not to infer, or, if this is inferring, it is an inference which in the same breath concludes that we must not make an inference.

And if, while we keep its assertorical character, we try to read the whole judgment according to intension, we fare no better. It is a fact that the attribute B attends upon the subject or attribute A. Can we proceed from this to anything more than a vain repetition? To bring in our "at least" is a futile expedient, for it merely reminds us of what we did *not*

say, and of what we must *not* say, viz. that B is never to be found without A. But this is not making a good inference: it is forestalling a bad one.

And if you reply, "To forestall a bad inference is to infer. For how else should I know that my inference was bad, unless after making it I compared it with my *datum* in an ideal experiment? My "*at least* some B is A" does mean that besides there is a *mere* possibility. And the knowledge of this possibility, which to me is not more and must not be thought more, how else should I get it but by an inference?"—then I answer that I am ready to accept your contention, for you now have yourself admitted that your conclusion is not *assertorical,* but is *problematic.*

§ 33. The truth is that, if you keep to categorical affirmatives, your conversion or opposition is not rational, but is simply grammatical. The one conversion which is real inference is a modal conversion, and that presupposes a hypothetical character in the original judgment. I will not labour to prove this last observation, but will proceed to show that a hypothetical judgment can be converted modally.

It can not be converted in any other way. In "given A then B" you experiment with A, and your result is B. But you can not, by simply taking B, experiment with that, and so get as a result its relation to A. This I think is obvious, and if in despair we fall back on our old device and bring in "some at least," we shall get no further. We shall succeed in saying "Given B you have A, if you suppose the case where A has given B." This is barren tautology.

The real conclusion is "B *may be* A," but this once again may be reduced to mere words. If you start with "Arsenic creates such symptoms," and conclude "The symptoms possibly have come from arsenic;" or if you begin with "Any dog is a mammal," and go on to infer "A mammal may be a dog"—it is possible that still you are drifting between the Scylla of false inference and the Charybdis of verbiage. It is assumed that you mean to go beyond the truth you started with, and that you are not content with the impotent result, that the symptoms are arsenical upon the condition that arsenic has caused them. You really mean that *they may or may not be arsenical, but that you have some reason to judge that they*

are so. And this is the point; for you do not judge directly of the real facts; you do not conclude by a vicious extension that, given some other drug, you might have the same symptoms; nor again, by an orthodox but imbecile process, that, since arsenic must be mortal, its administration at least may be the cause of death. This is not your meaning, and you would be sorry to be understood as conveying such frivolity. Your real judgment is about your own grounds of belief and disbelief, and is only indirectly an assertion about facts. That the death may have come from arsenic can mean, that, among the possibilities of death which are otherwise unknown, we can specify this one. And you perhaps meant to say this; but it is more likely that you meant to say something else. For you knew nothing before about arsenic as a possible cause of the death, except that you had no more reason to believe in it than in anything else. But now, from the knowledge that it does produce death with certain symptoms, you can make an inference. You have that reason in favour of its chance when you seek the most probable cause of the death. Among all the possibilities this alone has extra weight, and the weight turns the scale. The symptoms may or may not be arsenical; but in favour of the former we have at least the consideration that arsenic certainly would produce them. There is so much more probability in favour of arsenic than there is in favour of any other cause. And this, I think, was what you really intended to convey.

And if the conversion has this modal character, it then will imply an inference based upon the disjunction of possible alternatives.

§ 34. This argument from certainty to probability is, I think, the real sense which underlies the conversion of affirmative judgments. We may be told, in answer to our charge of frivolity, that such conversion and opposition are a valuable agent in education, and that therefore the orthodox logic in this point can not be wholly absurd. Most absurd, I reply, in the doctrine that it inculcates, but possibly useful because misunderstood into something rational. It can not, I should say, much profit a pupil to be taught that, if "every dog is a mammal," he may argue that "some mammals are therefore dogs," and from this make his way to the triumphant con-

clusion "*Some* dogs are mammals" (cf. Lotze, *Logik*, § 81). I should have thought that it might have been better to tell him that, unless he has special information before him, he can not reason straight from the attribute to the subject or from the consequence to the ground. He might be told, I should have fancied, that the presence of the former was a sign to his mind, which so far certainly increased the probability of the latter, but still could not prove its actual presence. This is what he must learn, if he really learns anything else than folly, and this he has to learn in spite of his teaching. It is here as elsewhere with the uneducated professional. He is pledged to the creed that truth can not be imparted until lost in a medium of superstition and nonsense.

§ 35. If we pass to the conversion of negative judgments and to conversion by way of contraposition, we must modify these charges. It can hardly be maintained that in this new sphere we have no frivolity; but on the other hand it can not be said that we have nothing else. From "A is not B" there seems really a passage to "B is not A." This no doubt may be questioned; we may be told that we knew before that A and B were incompatible, and that now we but know that B is incompatible with A; we thus have the same relation with a grammatical difference. But this view I take to be incorrect. It is true no doubt that in negation we may be said to experiment with *both* our terms, while in affirmative judgment we have but the first. Still the result, arrived at by the negative experiment, is *not* the incompatibility of A and B. We find that, given A, B can not be there; but as to what will happen when B is supposed, we have no information. Hence the relation arrived at is so far one-sided.

How then do we gain the other side of this truth? Most certainly not by any general principle, for that principle itself must first be got by the process in question. The process must consist in another experiment, which takes B as real and, suggesting A, again finds exclusion. The essence of the inference is open to doubt. It might be treated as the explicit perception of a new relation, got by abstraction from an implicit whole; but I should prefer to take it as apagogic. Suppose B, then A is excluded or is possible. First let it be possible, and then A may be B; or again B may be not-B, for

B can be A and A is not B. Thus we prove indirectly that B excludes A and that the two are incompatible. It is by virtue of the same apagogic process, that we are able to reason from the absence of the consequent to the absence of the ground.

§ 36. This brings us to contraposition, and here without doubt we have real inference. Given "A is B," we can be sure that not-B is not-A; yet we can not be supposed to see this immediately. The process is indirect, and rests upon disjunction. Not-B must either be A or not-A, but A is impossible, because, given A, we must have B; and by consequence B might exclude itself, or, if absent, must be there. This conclusion removes the alternative "Not-B is A;" and, since but one possibility remains, that is therefore actual, and hence not-B is not-A. We might desire something better than such an indirect reasoning, which depends on the mere exhaustion of alternatives; but the desire would not easily find its satisfaction.

§ 37. I may end by mentioning the so-called Inference through added Determinants. If we are sure that a negro is a fellow creature, we may go on to argue, A negro who is in suffering is a suffering fellow creature. Modern prejudice takes the truth as a tautology, and would deny the very existence of the inference; but against this we may set the moral prejudice, which, admitting the existence of the reasoning process, practically refuses the conclusion. The process is certainly vicious in form, for the addition may, so to speak, chemically unite with the terms it is applied to, and may form two components which are incompatible. A lie is a bad action, but it is only in rhetoric that a virtuous lie is a virtuous crime. So "friends are welcome," but "friends in adversity" may find their added determinant makes a change. The form of this inference, it is clear, will not stand, and it is better to reduce it to two main types. In one of these we say "A under any condition is B, C is A conditioned, and therefore C is B." In the other we betake ourselves to the Third Figure, and abstain in the conclusion from elision of the middle. "A is B, A is C, therefore CAB is true," or "This negro is a fellow creature, and this negro suffers, hence we have in this negro a suffering fellow creature."

The same liberty of leaving the whole construction gives the rational solution of another puzzle. "Because a horse is an animal, the head of a horse is the head of an animal" (Jevons, p. 18. If this argument can not be reduced to syllogism, is is because the syllogism has first crippled itself. The attributes of having a head and being an animal are united in a horse, and you conclude, in the third figure, that Under some conditions an animal has a head; or, without elimination, that, In the case of a horse an animal has a head. But this differs from the result given by Professor Jevons in nothing except grammatical form. The whole difficulty has arisen from the supposed necessity of eliding the middle.

I do not know what to say of that inference by way of *omitting* a determinant which Mr. Venn notices (*Symbolic Logic*, pp. 285–6), for I do not think that I understand it. "'Men are rational mortals; therefore they are mortals:'—Here we have omitted the term 'rational' from our result, that is, we have eliminated it. Or we might have omitted the word 'mortal,' by saying that 'men are rational.'" But, if we did this, we should surely be proceeding in a way which we can not justify. If our conclusion is based on extraneous information as to the irrelevance of one term, that information should have appeared as a premise. But if we mean to rest on the bare statement that we have, then we are certainly illogical. We may mean that men "before identified with 'rational mortals' are now identified with an uncertain part of the larger class 'rational,' or 'mortal'" (*ibid.* 287)—but, if so, I must repeat a former criticism (§ 32). We shall have argued from my certain knowledge to my uncertainty and ignorance. We shall in effect say, *because* I am sure of a thing, therefore, and for no other reason, I do *not* know it. And this surely will not do.

We may object on other grounds. The judgment may become false if you remove any part of it. "Religious miracles are pretended facts that are necessary illusions;" try elimination here. Or test the process by Mr. Venn's own instance. Men would *not* be rational if they were not mortal, nor would *they* be mortal if they were not rational; for in either case they would cease to be men. Our argument has illustrated a well-known type of logical mistake. For

men *simply* rational would, metamorphosed by no logical change, have risen like the angels; and *simply* mortal would have lost that foreknowledge which divides them from the beasts. Each alternative robs them of their human existence; they perish alike before the nudity of Reason, and *la mort sans phrase.*

§ 38. The list of the so-called Immediate Inferences has not given an additional type of reasoning. They all fall under the previous classes, and none of them can strictly be called "immediate," for none gives a conclusion without an operation. But, if we leave them and ask for the general result of the present Chapter, we may state it thus. Apart from these last, we have found a number of palpable inferences which can not be brought under the formula we laid down in the previous Book. The list of such processes may not have been exhaustive, but enough has been adduced to show beyond question that the general nature of the reasoning process has yet to be ascertained.

ADDITIONAL NOTES

[1] "Is a fallacy of inference." It would be better to insert "(even if it involves)" after "is."

[2] The inference to the new quality depends of course and follows on the construction of the whole, and this is a prior conclusion. The many terms must have become one. Cf. on Bk. II. I. III. § 6.

[3] "Ideal experiment." The distinction drawn here is seriously mistaken. See Bosanquet, *K & R,* pp. 296 foll. We have an inference wherever, and so far as, the necessity of a conclusion is seen or felt; and we have an inference nowhere else. In all cases alike, where there is a "must," there is an "ideal" result. Cf. Note 5, and on Bk. II. I. III. And see the Index, s. v. *Experiment.*

[4] On Arithmetic see the references in the Index, and so again on Spatial Construction, s. v. *Construction.* For the nature of the inference used in each see T. E. I.

[5] "For though the quality . . . got by it." This repeats the error shown in Note 3. Whether the arrangement is made ideally or is found, is irrelevant. The inference in every case alike is ideal or is non-existent.

[6] "The construction follows from the *data* themselves." This it never does or could do. Even where the identity of the terminal

points is given, an ideal whole is necessary for the inference. See T. E. I.

[7] "The conclusion is thus arbitrary." Cf. the references in the Index, s. v. *Inference*. And, on the general question as to arbitrariness, see T. E. I.

[8] I can not enter further here into the subject of degree or intensive quantity. But I would venture the remark that any attempt to deny this of psychical facts is to my mind quite mistaken and plainly indefensible. Cf. *Mind*, N. S., No. 13.

[9] With regard to the experiment, on the magpie and on other animals, it is of course not the facts which I reject but the conclusion drawn often too hastily. With regard to the "savages" I regret to have lost my reference, and the fact, I admit, is capable of more than one interpretation. See Bosanquet, *K & R*, pp. 87 foll. All that I insist on is that, with groups, we in many cases, without in the proper sense counting, can and do distinguish between more and less. Certainly I did not mean that the perception of more or less can be merely qualitative. I fully agree with the opposite view urged by Dr. Bosanquet (*K & R, loc. cit.*, and *Logic*, I, Chaps. III and IV), and I certainly accept in the main his statement as to the nature of number, to which statement the reader is here referred. Cf. also once more my article in *Mind*, N. S., No. 13.

The perception of more and less does, I agree, imply "something *and* another," and so by consequence involves "units" and an integral whole. What, however, I doubt is whether we should speak of "counting" before we have reached the more abstract stage of equivalent units, and the idea of "how much" or "how many" as distinct from "much," "more," and "less." But this doubt does not affect the main doctrine urged here, namely that units apart from an integral and qualitative whole are an abstraction which in the end is impossible and unmeaning.

[10] On the question of arbitrariness see Note 7. It does not follow that, if the operation is arbitrary, the inference is so also. The inference is here not the "operation" itself but is the perception of the logical ideal sequence which appears there (§ 13). But as to whether, and how, "one and one" not only "make" two but "are" two (§ 7), see the discussion in T. E. I.

[11] "It does but remove an obstacle to my vision." Cf. § 15, and see the Notes on Bk. III. II. III. §§ 5 and 9. It is wrong (I should now say) to call any process an inference if it fails both to *show* and also to *be* the self-development of a real object. See T. E. I. The ideal operation which shows an object taken as unmoved, is hence not an inference so far as that object in itself is concerned. It may, however, be a genuine inference, so far as it shows, and is, the necessary development of that object in my knowledge. But the real object here is the process of the known, which under certain conditions does and must develop itself into a certain result, a result which, if there before, was not there for me. So in the case of "superposition"

(§ 15), imagined or seen, and used to demonstrate coincidence and identity. This process is an inference so far as you take it as meaning that the thing must be so, because under certain conditions I *must* otherwise see that it is not so. Cf. Note 24.

As to how far in Arithmetic and spatial construction the object itself must be taken as actually moving, see above, Note 10.

[12] "The ground of knowledge." Cf. Bk. I. VII. § 49, and Bk. III. II. II. § 13. This problem involves the whole question of the relation of truth to reality, and no final solution of it was offered in this work. What we have seen so far is that in inference the ground of knowledge is, and must be always, in some sense a real ground. But the converse statement, that the real ground is always a ground of knowledge, does not of course follow from this, at least immediately. Our answer here will depend on our view as to how far reality is identical (a) with truth, and (b) with knowledge—knowledge in a sense taken more and more widely, until in the end (c) it is the same as experience. But see the Index, s. v. *Ground*.

[13] Comparison and Distinction. See the Index. There are some remarks on Comparison by me in *Mind*, O. S., Nos. 41 and 47, and by Dr. Bosanquet in No. 43. I was concerning myself, so far, mainly with what may be called processes subsidiary to the actual inference. The nature of Comparison as inference, and again of Distinction, so far as that falls under Analysis and Abstraction, has been dealt with by me in T. E. I. The reader should, however, consult Bosanquet's *Logic*, I, pp. 108 foll., and II, pp. 19 foll.

[14] "The copulative process." This statement seems ambiguous. An assertion that the use of "both" always implies comparison could hardly, I think, be defended. It would have been better to say "The copulative process, so far as this involves comparison, will be an inference of the above kind."

[15] "Truth new *to us*." We have here a serious error. The question, as to novelty *to me*, is wholly irrelevant. The real question is as to whether the subject developes itself ideally into something different or not. See Bosanquet, *Logic*, II, p. 8.

[16] With regard to Distinction, cf. Notes 13 and 22. "It is *for us* because of *our* activity." This, however, once again, is not itself the main essence of the inference. See Note 11.

[17] *Recognition* (cf. Bosanquet, *Logic*, II, pp. 22 foll.) is an ambiguous term, and its proper meaning is a subject calling for discussion which, however, seems here not required. The point here is this—that, where recognition involves a "because" and a "must be" (as at times certainly it does), it there is an inference. And yet, even there, we need have no middle in the sense of a "premise" or *datum*.

[18] *Hypothetical Judgment* (cf. Bk. III. II. III. § 10). The point once again is the same that, though in all hypothetical judgments an inference is involved, yet there need be no middle which is before us as a *datum*. On the Hypothetical Judgment see T. E. II, and again Bk. I. II. Note 40.

[19] "Is a heresy." But on this question the reader is referred to Dr. McTaggart's *Studies in Hegelian Dialectic.*

[20] On Dialectic as inference see T. E. I.

[21] *Abstraction.* For references see the Index. And, on the nature of abstraction, see T. E. I and IX; and cf. Bosanquet, *Logic,* II, pp. 20 and 144.

[22] The inference itself, here once more, is not "arbitrary"; and it claims, at least, to be a real self-development, though of what object is a question. See Notes 10 and 11.

[23] "Our *data* are pure universals." "Pure" here, as in the next paragraph, means "free from the mass of detail" which there is referred to. If A, B, and C were "pure and freed from all irrelevancy," in the sense of "unconditioned" they could not, as such, "appear" together merely as ABC.

[24] *Disjunctive Reasoning.* Cf. Bk. III. II. III. § 16, and see the Index. The statement in this work as to the nature of disjunctive inference is vitiated by errors which must be noticed. Their presence was pointed out by Dr. Bosanquet (*K & R,* pp. 255 foll.), and, so far as I returned to the subject in my *Appearance* (see the Index, s. v. *Privation*), I hope to have stood on firmer ground. But for a satisfactory treatment of Disjunctive Judgment and Inference I must refer the reader to Dr. Bosanquet's *Logic.* In the present work I have already (in the Notes to Bk. I. Chap. IV.) remarked on the above judgment, and, in T. E. I, have pointed to the main defect of the inference—a defect not removable unless we pass beyond the limits of mere Disjunction.

In what follows here I must attempt to distinguish the true Disjunctive Inference from processes which fail really to fall under that head. And with this object I shall begin by noting the assumption which in all genuine disjunction is necessarily made. We have there to take for granted, not only that we are dealing with the entire Universe—for so much we do, in a sense, and must do in all knowledge. In genuine disjunction we have to make a further assumption. We must, that is, also assume that the special reality (whatever it may be) which is the subject of our inference is itself the entire Reality —in this sense that it is all with which we are here concerned or by which we here can be affected. The above assumption may be explicit, or, again, may be more or less tacit. It may, that is, consist, and at first it does consist, in the mere ignoring of all else. But, in either case alike, the above assumption is necessary; and, so long as it stands, it excludes in principle (as lower down I shall note more fully) any appeal to doubt based on Privation and ignorance.

In a Disjunctive Inference (to proceed) our subject has predicates, such as a, b, c, which, though they all of course are real and determine their subject (S), are on the other hand "incompatible." If, that is, the subject is taken as, here for instance, specified and individualized as Sa, it, in that character and so far, excludes itself as Sb or Sc. On the other hand a, b and c all qualify S, and so determine the

contents of S no less positively than negatively. Hence the exclusion of a, b, or c—according to whatever conditions prevail in a given case—is *ipso facto* the necessary assertion of whatever remains in S. The denial of any one specification, Sa, Sb, or Sc, is the positive qualification of the whole S as therefore, now and here, necessarily expressing and individualizing its entire self in the residue. This expression is still of course conditional, if more than one alternative is left; but it becomes categorical when but one (whichever it is) remains. Disjunction, in other words, assumes a whole which is systematic, in the sense that its contents exhaust and complete it fully by their character and connections at once positive and negative.

A disjunctive inference, where genuine, rests (i) on a whole of the above kind, and it involves secondly (ii), as given or supposed here, the specification of this whole in one part of its full character. From this ground the conclusion follows necessarily, and in the above lies the real "must" and "because" of disjunctive inference. The process is defective so far as that specification of the whole which here is given, is not itself the result of known and included conditions. For the ideal self-development of S is thus broken by an intruding but necessary x (see T. E. I). But the argument, apart from this, is free from logical flaw. The conclusion follows necessarily from what is assumed. And, if you suggest that the conclusion depends on an appeal to mere Privation, the answer is that anything of this kind has been in principle excluded. The very ground of the disjunctive inference is the presupposed impossibility of an interfering "other" or "otherwise."

It is not the sequence but the foundation itself of our process which is liable to an objection drawn from Privation and human ignorance. Can we anywhere (this is the point) start from a basis which truly is all-inclusive, and which admits no suggestion that it is, or may be, essentially otherwise than as it is known? So far as our knowledge is "absolute," we must, I maintain, answer this question by Yes (see T. E. I and VIII). We have here no possible idea or genuine suggestion of any "other." And, if our knowledge could in the full sense be systematic, that knowledge would everywhere and throughout be self-complete. There would hence remain no field open for the merest suggestion that aught could really be otherwise. But since, as things are, we have no such system, and since in concrete detail all our knowledge remains but "relative," another answer must be given. If we except (as we must) any truths which are absolute, the body of our knowledge shows throughout incompleteness and defect, and opens everywhere within itself room for the rational suggestion of an "otherwise." Hence the assumption necessary for a disjunctive inference may be said to rest, so far, on ignorance and Privation. On the other hand we must not forget that, the more our knowledge (though always incomplete) is enlarged and unified, the less space and ground remains for legitimate and rational doubt.

It may be asked finally whether we can still speak of a disjunctive

inference where the possible "otherwise" is merely ignored. Obviously in this case there is no statement, or any explicit understanding, that in the field of what we have before us the possibilities are exhausted. And can we claim to have made here, really though tacitly, this required assumption? We may assert such a claim, perhaps, where our ignoring of anything outside is utter, and so is practically complete; where we proceed, that is, from a positive ground which excludes all doubt. But, on the other hand, if the least suggestion of an "other" is here present, there is an end, I agree, of genuine disjunctive inference.

With this I pass on further to consider processes which may show the appearance of disjunctive inference, but which still may be without a good claim to that title.

Where, having a subject R qualified as Ra, I attempt to find some other determination of R, such as Rb, and then fail to find any —or, again, where, Rb being suggested, I discover on scrutiny that Rb really is no "other"—have we in these cases an inference? And, if so, to what class does that inference belong? These questions deserve, I think, to be considered carefully.

(a) If, in the first place, we bring nothing with us back from our excursion, there is here certainly no inference. We are still left with our Ra as it was at the start, and we have not, any more than before, a conclusion that R *must* be a.

(b) But the case, secondly, may be otherwise. For we may have reminded ourselves, as a result, that every judgment is really an inference, and have reflected that what Ra should mean is that Reality is such that *therefore* R is a. Here, if we have not actually inferred, we have gained the recognition that our Ra is, and was, an inference. But we can hardly add that, with so much, the inference is specified as disjunctive.

(c) We may find, thirdly, that the "other" (Rb), which was suggested or sought, is in some sense actually an "other." Still it does not, as such, qualify our subject, and it hence, so far, leaves unaffected our judgment Ra. Our judgment has hence been, so far, neither weakened nor strengthened. Our result has been, in other words, the discovery that Rb is an error. This error is, in the process of our knowledge, something actual, and, taken so, has reality; while, on the other hand, logically in the character of Rb, it is not taken as real. As to our discovery, if the result of that is the mere dismissing of an error, we have clearly so far no inference. But on the other hand we have a "must," a conclusion and an inference, so far as we take the suggestion and removal of the false Rb as a necessary step in the process of our knowledge. This inference, further, will be disjunctive, so far as our world of knowledge is viewed as a system which contains the error, Rb, as an essential element. For Rb thus has become something the negation of which establishes for us the conclusion Ra. What of course we must not add is that Rb, as such, is, or ever was, compatible with our logical subject,

or is logically a possible "other" than Ra. But for a treatment of this problem of Error, I must refer the reader to my *Essays*.

(d) We may (lastly) assert that our subject must be Ra and not otherwise, on the ground that, if there were an "other," we must certainly have found it. And we may have an inference here which is genuine and also disjunctive. I may, that is, assume here that my knowledge is exhaustive, and that therefore any "other than Ra" is, if anything, an error. But in the character of an error this "something else" can, we have seen, be taken, in the world of our knowledge, as actual. And, taken so, it may be regarded once more as a positive element, which by its denial necessitates for us the result Ra. And the result will, thus and in this sense, follow as the conclusion drawn in a disjunctive inference.

We never (the reader will observe) do argue directly from privation, from ignorance, absence or incapacity. No inference of any kind can rest immediately upon these, and any idea that it could so rest comes from misapprehension. The basis of an inference, if and so far as it is a genuine inference, must everywhere be taken as positive. The real and vital question is as to how far the positive assumption or assumptions, which we must use, are vitiated by our ignorance, and how far they are thus open to legitimate doubt about the possible presence of an unknown "other." And to this question I in this Note have referred already.

It is better perhaps to add here a few words on what is called Elimination. On this process, so far as it appears in Arithmetic and again in Abstraction, see Note 21, and, further, T. E. I, IX, and the Index. All that need here be remarked is that Elimination involves a disjunctive inference only where, and so far as, the removal of an element takes place within a whole which itself is truly disjunctive. For solely in this case does the element excluded become (through the above whole) a positive ground for the assertion of the residue as now necessarily real. How far, on the other hand, mere Abstraction fails to reach such a result will be found noted elsewhere. See the references given above.

It should be clear, I hope, finally, that the "axiom," given in § 27, is fundamentally wrong. We have here again that mistake as to "mere ideas" which so much injured this work. But no idea, if it actually is an idea, can possibly fail to be real somewhere and somehow. Further, we have now recognized the genuine principle, the place of which was usurped by this spurious "axiom." The ultimate Whole, and again any subordinate whole with which for our purpose we are concerned, is what we have to take as reality. And the more that any determination of a whole contains and expresses that entire universe—the more that any totality individualizes itself specially in one part of what falls under it and within it—the more real everywhere does that special embodiment become. The exclusion of the incompatible "other"—or rather its exclusion as, and so far as, incompatible—has reinforced by so much what remains.

The "other" lives and shows itself positively in the greater share of the whole which has now appeared as owned by the residue. The process here is the real opposite of that abstract struggle where the survivor is victorious through its own private and particular force, or by the external accident either of designed interference or blind irrational chance.

[25] "This attempt would be futile, since &c." After "since" should be inserted, "if for no other reason." Cf. § 27.

[26] "The residue is self-consistent," i. e. as containing no conflicting possibilities. The following statement "One possibility . . . fact" is wrong in principle. See Note 24.

[27] "The earliest form, &c." We begin, that is, by, at once or in the end, ignoring practically the possibility of an "otherwise." See ibid.

[28] "There is an axiom &c." This and what follows is erroneous. Section 28 also is largely mistaken. See once more ibid.

[29] If I may state the result which has come to me personally from my own experience and errors, I should repeat that False Alternative is that fallacy which, beyond all comparison, is most prevalent and insidious.

[30] "Immediate Inferences." My treatment of this subject is not satisfactory. I would refer the reader to Bosanquet's *K & R*, pp. 188 foll., and *Logic*, I, Chap. VII, and II, Chap. I. The main point to my mind is this, that no inference is or can be really immediate. Unless there is a link of "why" and "because," unless there is an ideal whole, and, through that, a necessary self-development, there is no inference anywhere or at all. Where we come to perceive another aspect of a given matter, that result is not an inference, unless we take this second aspect as connected with the first, in, through, and because of some whole which is concerned. And in the traditional Immediate Inferences this essential feature, I should say, is wanting.

[31] "On the other hand . . . erroneous addition." With regard to this point, and on the conversion of negatives, etc., the teaching of this work is mistaken, here and in §§ 31, 35, and 36. Exclusion is essentially reciprocal; and the perception of this, I now agree, should not be taken as an inference. Further, I now hold, with Dr. Bosanquet (*Logic*, I, Chaps. VI and VII), that, in "A is B" or in "If A, then B," the connection of A and B is in principle reciprocal. It is otherwise only so far as there is irrelevancy, so far as A and B, in other words, are not pure, and an x is really implied in our assertion. See Index, s. v. *Cause*, and T. E. X; and cf. *Appearance*, p. 362, note.

With so much, and with a reference once more to Dr. Bosanquet's works, I will now summarily dismiss the subject of Immediate Inferences. To study its detail further would (the reader may agree) be more wearisome than profitable.

CHAPTER III

GENERAL CHARACTERISTICS OF INFERENCE [1]

§ 1. The position we now stand in is briefly this. It is not every inference that gets a new relation of the original elements, by means of a construction that interrelates them. This is not the universal type of reasoning, and it obviously does not present us with its essence. The ideal operation is not always a synthesis based on the identity of given terminal points.[2] The place of such a construction may be taken by processes, the nature of which we have partly seen, but whose general type we have not yet asked for. But we must delay that enquiry till we reach another chapter. At present we shall not take this diverse array of ideal operations, and try to reduce them to common types; for, before attempting this scrutiny, we may pause with advantage and raise some questions.

§ 2. And the first of these is, Can we not at once say something general about the nature of reasoning? Without regard to the differences which we have brought to light, is there not some account which holds true of all of them? And we answer that we can see clearly such a common character. No matter what the operation may be, there is always some operation. This operation [3] is an ideal experiment upon something which is given, and the result of this process is invariably ascribed to the original *datum*. We have here an application of the Principle of Identity;[4] for what is true of a *datum* within the operation of our ideal experiment, is also in some sense true of that *datum* without regard to the experiment. This formula holds good throughout all our instances, and it will repay us to consider them awhile from this side and aspect of their nature.

§ 3. In reasoning we have a starting-place that is given, a subsequent operation, and a consequent modification of that starting-place. In an abstract form we may represent it as follows. First A, then A in ideal experiment becoming A*b*, and

last the assertion that A*b* is true, unconditionally or conditionally.[5] We have thus (i) Premises or premise, (ii) Operation, and (iii) Result.[6] The first is A^1, the second is A^2b, the last is A^1b. For what holds of A once will hold of it always, and the quality, which A gets in the context of that process which we represent by A^2, belongs in some sense to A apart from the process. Our present task will be to verify this type throughout all our examples.

§ 4. We may preface the enquiry by a reference to causation. Without discussing the exact relation which exists between the causal and the reasoning processes, we may refer to something which they have in common. In causation you first of all start with the elements called the "conditions," the next step consists in the process of change which issues in a certain result, and the whole is complete when that which has resulted is ascribed to the original conditions. It is the same with inference. The result of change that issues from the process into which the original *datum* enters, is ascribed to that *datum*. Both causation and reasoning depend upon identity, sameness in spite of a growth of difference;[7] sameness again which preserves itself, not by refusing but by appropriating that difference. Both are alterations of a *datum* which is changed, but survives in its changes and makes them its attributes. In a future chapter we shall further discuss the relation which subsists between the effect of a cause and the conclusion of an argument.

§ 5. Returning to the task we have now in hand, let us proceed to the application of our general remark. And let us try first those inferences which interrelate three terms, and which so bring out a new relation. In these we have first the elements of our construction existing apart, then we have the construction, and last of all the new relation. Take for instance "A to the right of B, and B of C, and therefore A to the right of C." We here have got (i) two spatial relations, or rather two sets of terms in relations of space, and we may call this starting-place reality qualified as these pairs of relations. Let us pass to the second step[8] (ii); this gives us the synthesis of those very same terms which we had at the beginning. The contruction certainly is a difference, but it does not make such a difference to our terms that they lose

their identity. We next (iii) perceive a new relation, the result of the construction. But since the terms are the same notwithstanding the construction, they are the same in respect of this further result, C — A. Hence the real, qualified as C — B B — A, is the real qualified as C — B — A, and that again is the selfsame subject as the real which has the relation C — A. We have sameness both within and without the construction, and we have appropriation of that construction's result.

Take another argument, "A is equal to B, and B to C, and therefore C = A." The whole synthesis of these terms, effected through B, is the second stage, on which follows thirdly the separate perception A — C. The result of the construction is taken as its attribute, and is so predicated; and the construction itself is in just the same way made an attribute of the terms. A, B, and C are the same in the construction and with the result that it developes, as they were apart from it. The issue of the operation is simply their own being.

And we can verify this type in the common syllogism. In "Mammals are warm-blooded, men are mammals, and so men are warm-blooded," we find the same elements.[9] First the separate judgments are given us as true; we have reality appearing in the attribute of these two syntheses, "man-mammal" and "mammal-warm-blooded." Then the construction follows, and from that the intuition of "man-warm-blooded." But the relation which we predicate of these extremes, is not a foreign compulsion of their nature. For the issue of the process, the result of the change, has not removed their sameness. They have remained through alteration, and accept[10] the difference as their proper attribute and native possession.

§ 6. Where we go from the construction not to a new internal relation but to a quality of the whole, our account still holds good. The elements, which during our circular voyage we received discontinuously each in isolation, first combined themselves into a spatial whole, and then took on the qualities we understand by "island." But the reality throughout has maintained its identity. It moved before our eyes a changing show, that came fresh from the unknown and slid back perpetually into nothingness. To our judgment it appeared as a discrete series of spatial arrangements; and it was with this

series that our reasoning began. That, boldly relying on the Identity of Indiscernibles, built up for us an intellectual whole, and that whole presented us with certain qualities. We then attributed these qualities to that very reality which was manifest in our fragments of successive coast line. The reality has certainly both undergone experiments and suffered changes at our hands. It is not what it was, and it yet remains the same; for it is itself and more. It is the original subject with additional attributes, conferred upon it by our ideal operations.

We find the same when we pass to spatial arrangement. Bricks and mortar with the builder are here our premises, the compound action and reaction of the two may be called the construction, and the conclusion is the appearance of the house. It may be doubted how the elements, which we had at the start, can survive in the result; yet we can not but think that somehow they have survived. For otherwise it would surely be false to say that the house is the effect which has come from these causes. I admit the difficulty which attaches to identity, but it is still harder to believe in a discontinuous existence and in a divided reality. For if in the house you have not got the work done by the builder on a certain material, you have no right to speak as if you had. And you could not even say that the house has appeared, without synthetic judgments which assume an identity. If the reality has changed, the same reality must be there still, and if the reality has *not* changed, there has been no change whatever; for a sequence of mere differences would have nothing it could alter, and could not generate even the show of alteration.

And in the same way when, not externally but simply in my head, I rearrange elements by an arbitrary choice,[11] the result, which I get at the end of my process, is true of the basis from which I began. That foundation has survived and has got a new quality without the loss of its own selfsameness. The result is hypothetical, since my free action was no more than possible. One element of the cause, apart from the others, is but the hypothetical producer of the consequence, and is no more than what we call a "condition."

§ 7. We may deal rapidly with the operations of addition and subtraction. We have the units arranged in a certain manner, and these are our material[12] with which we begin.

Then follows a rearrangement of these units, and a consequent perception of another attribute which also belongs to them. Throughout the operation the units are identical, and they appropriate the result of the experiment. And since it is assumed that to them the experiment can *make* no difference, therefore that difference becomes a *categorical* predicate. The units with a quality of certain integers go into a process, and come out in possession of another quality. Thus by virtue of this change the identical subject is credited with both contexts, or, in other words, the two different arrangements, which we began and ended with, are taken as identical.

And it is clear that the same view holds good of geometry. The *data* are divided or are rearranged or are compounded with arbitrary fresh surroundings, and from this manipulation comes out a result. But since the experiment adds nothing to the *data* nor takes anything away, since again the *data* remain the same throughout the experiment, the result becomes their categorical attribute.

§ 8.[13] In Comparison it is easy to recognize the same type. A and B are first given us apart from their relation. The next stage is the process, in which we bring them together, and so perceive a relation of likeness. The relation is then predicated of A and B apart from our comparing activity. They *are* alike because their change to this relation was no alien imposition, and because their identity has remained unimpaired throughout the alteration. The same remarks apply to the inference of Distinction.

And they apply once more, with slight modification, to Dialectic reasoning, to Recognition, and to the Hypothetic judgment. In all these we have but one premise explicit; we start with AB, and, subjecting this to an ideal experiment, we are given ABC. The original *datum* is met by a function which produces a result. But it is assumed once more that the synthesis does not arbitrarily add from the outside; and hence, since the *datum* is the same in the experiment as it was beforehand, the result is taken as its quality and attribute.

Nor in passing to Abstraction do we find any change. We start here with reality in the character of $abcd^1$. This same content is subjected to an ideal operation as $abcd^2$, and then presents us with $a - d$. Upon this we conclude that $abcd^1$ is

also *ad*, or, more directly, that the reality is *ad*. But our conclusion would be false, did it not presuppose the identity of the subject in two different contexts.

§ 9. In Disjunction lastly we find once again this identity. Whether we begin with the alternatives stated as exclusive, or with a simple field of possibilities,[14] makes no real difference. We start with a subject determined inside a certain area of possible predicates. This subject then undergoes an operation which reduces that area, and it ends by seizing on the undestroyed remainder as its actual attribute. But it could not do this, if it stood outside the process or were dissipated within it. Itself goes there and is active, preserving its self, and emerging with a difference which it refuses to give up.

The same character is seen in Apagogic reasoning, and again in that qualification through rejected suggestion, which (by employing the supposal of an opposite) turns "it is" into "it must be." The identity within and without the experiment needs here no indication. And finally the Immediate Inferences, which we were last concerned with, are not independent. They arrange themselves under the heads we have discussed, and our foregoing remarks have already dealt with them.

§ 10. Our result so far is that inference is the getting a new result from a certain *datum*. The result is procured by an ideal operation upon this *datum*, and when procured becomes its predicate. Reasoning thus depends on the identity of a content inside a mental experiment with that content outside. And so we find once again in the total process that need for individuation, which we before discerned in the middle construction. Just as that construction was insufficient to give us a new relation of the extremes, unless it joined them in an individual whole—so here the full process would not get to a conclusion, unless it possessed an individuality. And it is made individual by the identity of that content which runs right through it, and which joins the final result to the initial starting-point. So much at least we are now able to say in reply to the question, What is an inference? And this beginning of an answer we may go on to make clearer by laying down some important distinctions.

§ 11. It is not any and every mental activity which can properly be called reasoning. This claim could not, I think, be seriously maintained, but it may perhaps be worth while to examine its nature. We may be asked if our account, so far as it has gone, has not tacitly admitted such a sweeping pretension. "Does not every ideal activity," an objector may urge, "first begin with a *datum,* and, performing on that an ideal operation, so produce a result? Take for instance judgment. Here we have the reality, and we qualify that subject by referring to it a suggested content. That is an ideal action, and it is an action again which brings about a change which it does not create or manufacture. The result is ascribed to the original *datum,* and ascribed by virtue of an ideal operation." We must briefly reply to this mistaken claim.

§ 12. There are two questions we must endeavour not to confuse. Each of them asks if judgment is inference,[15] but each makes that enquiry in a different sense.[16] The first asks if all judgments *imply* an inference. That is, does judgment presuppose and is it the conclusion of a reasoning such as is described above? That is the first question, and the second is quite different. For the second enquires if every judgment by itself *is* an inference, independent of and apart from any of those processes which we have hitherto called argument. We will begin by dealing with this latter claim.

Suppose for instance that we had an operation, which, taking X, simply added on *y* as a mere suggestion that came from the outside, and then judged X — *y*. Could we call that an inference? No doubt it may be said to preserve an identity; no doubt again that it ends with a judgment, which may fairly be said to predicate something new of the original *datum.* No doubt once more it is an ideal activity. But, notwithstanding all this, it is not an inference. The *y,* which in conclusion it attributes to X, is not in any sense *got from* X by an operation thereon. It is stuck on from the outside; and because the result, ascribed in the conclusion, is not procured *from* the starting-point, therefore this result is not a real conclusion.

§ 13. In the arbitrary synthesis of a suggestion[17] with reality the predicate does not really come from the *datum.* It thus lacks an essential character of inference, the getting of the product on and from the premises. We may try however

to renew the attempt in an amended form. Judgment, we may say, is an inference of this kind; we have (i) Reality together with a suggestion, and beside these two we have an arbitrary power of junction. These three elements are our premises, and we have (ii) the actual union of these elements, which gives (iii) the synthesis of the predicate with reality—and this result is a conclusion. But this amended attempt is as futile as the former. For the judgment in the first place will not be categorical. In this it will be like free spatial arrangement; so that the inference, if there is one, does not end in the simple assertion X — *y*. It can not go beyond, "If X is treated in an arbitrary manner it will turn to X — *y*." And perhaps this is senseless. For in the spatial arrangement the combination of the *data* produced a new quality, while here on the other hand it produces—their combination. We must end by writing the result of our process, "X, if X be X — *y*, must certainly be X — *y*." And there does not seem to be any inference here.

§ 14. I offer no apology for pursuing these somewhat dull enquiries, since it seems to me that every answer we elicit throws some light on our general doctrine. We have seen so far that judgment *is* not inference, and that a process which was nothing more than a judgment would never be reasoning. We may now approach the second question we asked: Is every judgment *part of* an inference? Does, that is to say, judgment presuppose a process which must be called reasoning? May assertion be always taken as conclusion? This is really a somewhat difficult problem, and, as we shall have to recur to it afterwards (Chap. VI. § 15), we may content ourselves here with some brief remarks.

§ 15. Some judgments, we know, do involve a reasoning. We saw that this held of hypotheticals,[18] since the supposition that A is *real,* is itself an ideal operation on this content. For, in the union with reality, A is met by a function of synthesis and so developes a new connection. And again if we take those common judgments which go beyond presentation —I mean those extensions of sense which supply us with the past or with the unseen present—they are all inferential. They imply, as we saw, an ideal operation, and it was for that reason that we called them "synthetic." Nay, when, leaving these,

we come down in the end to those judgments which assert about present perception—the class we thought fit to call "analytical"—even here it may seem we are dependent on reasoning. For these assertions are based on a process of mutilation. They are all abstractions, and abstraction, we now know, is a kind of inference. So that, resting on these grounds, we clearly have got some cause to maintain that judgment is never separable from reasoning.

§ 16. But there is ground on the other side from which we might deny this thesis. "Admitted," we might say, "that every judgment can be turned into a kind of inference by a suggestion of the opposite,[19] yet all judgments do not undergo this operation. In the first place the operation may be wholly circular (cf. Chap. II. § 28), and hence illusory; and then, apart from this objection, in very many cases it does not exist at all. These cases so far will be free from all reasoning. And now, passing from this point, let us take in hand a more real difficulty. We admit that all judgments, though they may not combine, at least must mutilate; but it does not follow that they therefore infer. 'Mutilation' is ambiguous, for you may perform the operation or may simply accept it. A judgment, that is, may *either* start with something given, and by working on this may extract an isolated and abstract product, and this would clearly be inference; *or* on the other hand, instead of selecting, the judgment may receive. If the original whole has never been given to the judgment, if the judgment takes up a foreign suggestion which itself is mutilated, then, although in conclusion we affirm an abstraction, yet *we* have not abstracted, and the result *for us* will not be a conclusion."

§ 17.[20] "For," we might continue, "you should consider it so. You can not reason categorically unless you start with a given,[21] and unless this given premise contains a judgment.* If therefore all judgment depended on inference, you never would get to an ordinary judgment. And the only way in which to escape this circle, is to begin with judgments that imply no reasoning. Nor is this impossible, for you may have a result which involves selection,[22] and yet you may never yourself have selected. An abstracted content can be conveyed to

* This statement must be taken subject to the explanation given in Chap VI. § 15.

your mind, though you have not worked on the raw material. The testimony received from others is an instance; and then, apart from the reasoning of other men's intellects, you have your own senses. Judgment rests in the end on suggestions [23] of sense, and these suggestions are never uniform. For we do not feel one equable and steady flow, we are not in contact with a level surface; the judgment does not come down unsolicited, and compose at random its spontaneous junctions. This, if it were possible, would be to reason without reason. But it is not possible. Before judgment appears there are prominent points in the suggestions of the senses. A stands above the level and with it stands B. Together they knock at the door of judgment, which admits them together and keeps back the rest. The result may thus present an ideal synthesis, an intelligible abstraction; but the process is no selection of the reason. It is bare natural selection, where the fittest have survived and where the strongest are most fit. And hence the conclusion, for the intellect, is the work of chance. The mind has not embraced the persuasion of argument, but has yielded to the insistence and the emphasis of sense."

§ 18. Such is the answer we might make to the claim of all judgment to stand as inference; and in another Chapter we shall have to weigh the worth of this denial. But we can not pause to consider it here, and must be content with a partial answer to our questions. All judgment is not inference, if *mere* judgment claims a position as inference. So much is certain. But when asked if judgment does not presuppose inference, if in short the two activities are not diverse stages of a single function, we can not yet give an answer. We have however shown some reason for considering them as separate, at least for the present.

Judgment then is not inference, and reasoning is not the same as intellectual activity.[24] We must now go on to consider a narrower claim. Has all Redintegration a right to assume the title of inference?

§ 19.[25] Every reproduction is clearly a function which starts from a basis and gets a new result. And some reproduction of course is inference. Where, AB being given, C is

supplied and then attributed as a predicate to AB, we have a kind of reasoning with which we are now familiar. An ideal whole is produced by a process, and a judgment follows from this ideal construction.[26] And if redintegration always had this character, the question if it always might call itself inference, could be answered at once and answered affirmatively.

But there are other reproductions which are far from appearing to possess this character. Redintegration does not always seem to result in judgment. An object may excite vague feelings of pleasure or a dim sense of pain, but these feelings need not be attributed to that object. Their content is not always taken apart from their existence, and applied to the thing as one of its adjectives. They may remain my feelings, mere psychical phenomena, which are together with the object but form no part of it. Hence the process has no right to call itself inference. For it does not end in a judgment; the starting-point does not survive in the process, maintaining its identity and appropriating the difference. We simply pass from it to another existence which is taken as existing on a level with the first. This process is on the one hand *ideal,*[27] in the sense that it advances on the strength of a connection between universals. But on the other hand it is not *logical,* since the universal, brought in by the ideal connection, is not used as a content which is bestowed upon the original object and particularized by that reference. The universal on the contrary is allowed to become an independent fact, in which the content is one with the existence, and where the particular character is supplied psychologically from my whole state of mind. There is hence no logical individuation. What unity there is does not fall within a development of the *datum* through one process of change. It falls simply within my feeling self; and the result is a conjunction which is no connection.[28]

It is useless to object that the result in the end may be a judgment which affirms the existence of this mere conjunction in my soul. For that result will be no inference from the original *datum.* You may say that we certainly have got our conjunction from the *datum,* but after all that *datum* does not survive in it. And so we have not got a content, we have not got a predicate, our result is not ideal, nor is it a conclusion.

And when starting again from this mere psychical fact you go on to a judgment, then, let that be an inference, it has not been *inferred from* the content we began with. It has come from a fact whose existence has supervened.

§ 20. This discussion, I fear, may prove hard to follow; and the reader who finds more than moderate difficulties, had better pass on to the following chapter. For we are now about to raise another question, both important and relevant, but not essential to the understanding of the sequel.[29]

There is an answer we might give to the foregoing section. Admitted, we might say, that some redintegration exists, the final result of which is not logical, yet the process itself, with its immediate product, is still an intellectual inference. All reproduction will in that case be reasoning.

We objected, in our Chapter on Association, to the formula we found laid down by Wolff, on the ground that reproduction went beyond *perceptions*. And on this very ground we have just objected to taking the process everywhere in the character of inference. The unity of the process we found might be other than the individuality of cognition. But a doubt may now be raised as to whether this result is after all not mistaken, and it may be urged that, at bottom, the recall and reconstruction are purely intellectual.

Let us try to state this possible contention. It is admitted on both sides that an object, once accompanied by certain feelings, may, when it is either reinstated ideally or once again presented to sense, bring in those feelings. The issue is this —Are the feelings, as such, reproduced or produced? We have assumed so far that the former is true, but our assumption admits of being traversed thus. Feelings, it might be urged, can not be recalled unless made universals; and this unconscious abstraction suggests the presence of intellectual work. For suppose that when the object was presented, it, together with the feeling, engaged our attention. This mere attention will be apprehension, it will imply selection [30] and rudimentary judgment, and this alone and by itself will set up between the elements a logical connection. It will make the whole perceptive, so that now, given one part, the rest will follow. Hence the feelings are recalled as they are for perception, and that process is inference. They certainly come to us as psy-

chical facts, but this final result *falls outside the inference,* and is a mere psychological addition.

§ 21. Let us further explain. We must remember that every psychical phenomenon is complex; for on the one hand no perception is without some tone of feeling, and every feeling on the other hand is partly perceptive, and has a content, a character, a quality that we recognize.[31] Now suppose that this perceptive side of the feelings was attended to together with the object, in that case the object will recall it by reasoning, and will supplement itself by this inferred content. This is inference, but it still falls short of what is wanted, for it does not account for the side of mere feeling. How, it may be objected, do you get back to that? If you do it by redintegration, then, after all and in the end, you have been forced to admit the reality of what you denied, a reproduction that was not logical.

And this is the issue. The view, which we are here attempting to work out, would admit that such reproduction would not be logical, but then it would deny that such reproduction exists. It would urge in opposition that it is the perceptive side of the feeling which is reinstated, and that this produces actual feeling *directly* and not through reproduction. The perceptive side may be particularized first by the psychical context into which it is brought, but this is not the point. The point is that it works directly on the soul, and by that working causes an actual feeling which is like the original. Thus the old feeling, *as* feeling, is in no sense reinstated; but the real fact is that the soul is such, or has become such, that, without restoration or redintegration, and by nothing at all but simple reaction, it responds to the idea with an outcome of feeling. And, if this account is true, a restriction has saved us. The feeling is not the conclusion of an inference, but falls wholly without it as a mere psychical effect. And, if so, the actual reproduction is purified from feeling, and remains in the character of intellectual connection.

§ 22. I think that this view deserves careful attention, but I must not be understood as adopting it wholly. It is not that I doubt the reality of the psychical process which it describes; for I am sure that in some cases that process exists, and its existence has somewhat important bearings. The confusion

for instance which in English Moral Philosophy besets the word "motive," arises mainly from a false assumption on this very point. And that confusion disappears when we distinguish between the idea itself and its psychical effect (cf. *Ethical Studies,* Essay VII.).

But it is one thing to hold that a process exists, and it is another thing to deny the existence of any other possible process; and here I hesitate. We might explain perhaps every phenomenon offered, on the view that reproduction is always logical. This view in the hands of those who espouse the cause of the intellect and are champions of its primacy, would be a weapon perhaps not easy to withstand, and which would make short work of many difficulties. But then in some cases the explanation might force the facts. And again any inference from the universal character of what is reproduced to the logical nature of the reproductive process, would appear to me to be questionable. The logical is universal, but I am far from sure that the universal must be logical.

And I doubt on another point. This simplification might be premature; for suppose we got down to an ultimate true doctrine of the relation between the elements of our nature, and suppose we saw clearly how the intellect stands to the emotions and the will (if there really is a will)—are we sure that this weapon would any longer be wanted, and that the difficulties would keep the form that they now wear? To this doubt [32] I can only allude in passing.

But however we settle the questions just raised, we are certain of one thing in respect to inference. The mere result of feeling, not attributed to an object, is never a conclusion. Whether produced by reinstatement, or not so produced, in neither case will it come straight from reasoning. For in the latter case it will fall outside the process, while in the former case the process is no inference. And with this we may proceed to another enquiry.

§ 23. A result of mere feeling we saw could not be an inference, since it was not ideal. But the result of *imagination,* it may now be urged, is often ideal. It may keep itself distinct from mere emotion and desire, and may present us with

a pure perceptional series.[33] In such a case as this can imagination be called inference?

We must deal briefly with this question, for it tends to divert us to matters of great interest which may here be neglected. And we may answer at once, No result of mere imagination can be an inference. It can not be a conclusion, because it is not a judgment. The production of imagery may no doubt follow strictly the logical sequence to a certain point; but there it breaks off. For instance A*b* may proceed to a result of fancy through logical functions $b - c$, $c - d$; but the result when obtained is now not integrated logically with A. On the contrary it appears as an individual image D, and that image is not a predicate of A*b*. It certainly stands in relation with A*b*, but it falls into that relation through psychical co-existence;[34] and so once more we have conjunction without connection.

We have no judgment, since the result is mere fact which exists in the mind, and since it is not a symbolic content referred away from its own existence. It exists and it stands in certain relations, but it is not taken as an adjective which is either true or false. And then the given A, with which we started, does not survive in the result; it does not appropriate the content and use it as its attribute. That content breaks its logical bond, and, wandering off into the psychical space, begets by contact with beings external to A an independent substantive D; which, itself autonomous, has now a substantival relation to A. Hence we have no logical unity in the object, no ideal individuation.

§ 24. Imagination is certainly not free from logical processes. Its trains, no doubt, throughout a great part of their length may consist of the strictest intellectual sequences. They may contain few images, and but little save the purest symbolic ideas. Yet somewhere we find a solution of continuity; somewhere the identity of the *datum* is lost; at some point we pass from the adjectival content attributed to our basis, and slide into an image which is not its predicate. And with this break, wherever it comes, we have left judgment for fancy, and are not concerned with truth but with psychical fact.[35]

It would no doubt be interesting to pursue this enquiry; but the interest would, I think, in the main not be logical. It

would in the first place be psychological, and then perhaps æsthetic. But the broad distinction, that what is merely imagined is not held to be true, removes imagination from the province of logic. We shall however be forced to touch again on this point when we deal with the early development of reasoning (Chap. VII.).

§ 25. Inference then, so far as we have seen, is an ideal experiment which procures a result from a given basis. This result is a judgment in which the new product is predicated of the given. And in this whole operation we have found that identity which our Second Book perceived to be essential to the middle construction. But our enquiry so far has stopped short of the goal. We are naturally still curious about this middle process. We still ask Is there not some central identity to be found in this? And we shall take up this question in Chapter V.; but, before we can answer it, it is necessary to inspect our types of inference and to reduce them, if we can, to some more general form.

ADDITIONAL NOTES

[1] Chap. III. The reader is referred here throughout to T. E. I for what, I hope, is a more correct view of the subject.

[2] "Given terminal points" should have been "terminal points that are *given*."

[3] "This operation." The aspect of "operation" and "ideal experiment" certainly belongs to inference, but the essence lies always in the ideal self-development. Cf. the Notes on the last Chapter, and see T. E. I.

[4] "Principle of Identity." Cf. Bk. I. V. and Index. This principle (the reader should note) is positive. It asserts that any given connection of content may be taken as a "law." Hence where (under change) you infer or assume that the "law" is not counteracted—the old connection still holds under the new conditions.

[5] "Unconditionally or conditionally." The distinction, I presume, is between what follows and does not follow from A *essentially*.

[6] "(i) Premises, (ii) Operation." This separation is quite untenable, unless the "premises" are confined wrongly to the *datum*, taken in a narrow sense. See the Index, s. v. *Premises*, and T. E. I. As to the Operation, this is *not*, itself, the "because." Cf. Note 5.

[7] "Sameness in spite of a growth of difference." The whole thing,

I would once more repeat, depends, in a word, on self-development.

[8] "The second step." But an ideal whole, containing (in some sense) all *schemata* and this *schema*, is here a necessary "premise." See on Bk. III. I. II. § 6.

[9] "Mammals . . . warm-blooded." The subject here is "Man," which, in and through an ideal whole, necessarily developes itself as "warm-blooded." What the subject of an inference really *is*, does not of course always appear from the formal statement. See Index, s. v. *Subject*.

[10] In "accept the difference," "accept" should be "claim."

[11] "Simply in my head . . . choice." For "in my head" see on Bk. III. I. II. § 5, and for "arbitrary choice" see ibid. § 6. For spatial construction and Arithmetic, see again ibid.

[12] "Our material," i.e. so far as *given*. Further it is hardly true to say, in the next paragraph, that "the experiment adds nothing." But, once more, the real subject of the inference and, on the other side, the *data* can not be assumed to be simply the same. And (in § 8, paragraph 1) it might be well perhaps to insert "*mere*" before "alien imposition."

[13] For all these processes see the Notes on the preceding Chapter.

[14] The "simple field of possibilities" ought to include an ignoring of anything outside (see on Bk. III. I. II. § 25). In the present Section the question as to what really is the subject, is again neglected. On Disjunctive Inference, including "rejected suggestion," see again ibid.

[15] Judgment and Inference. On this difficult question the reader is referred to T. E. II. Its treatment here is not satisfactory. Cf. Bk. III. I. VI. §§ 11 foll.

What I should have said here is (i) that a judgment certainly need not be mediated *in form;* and that (ii), so far as it involves mediation, this mediation, to make it an inference, must be a necessary self-development under one of our heads. The mediation otherwise is psychological, and is not logical. But see on Bk. III. I. VI. § 15.

[16] The first question put here is, "If you take inference *as it has been taken so far,* is it implied in all judgment?" The second question is, "Can you take inference *otherwise,* so as to say that in all judgment it is present?" To this the reply given here is No. For (a) an "operation" is not an inference, if that operation remains external and the subject is not self-developed. And (b) you can not avoid that result by trying to include, within the subject itself, an external operation.

[17] For "suggestion," see the Index, s. v. *Suggestion*.

[18] For the Hypothetical Judgment see on Bk. III. I. II. § 18.

[19] "Suggestion of the opposite." Cf. ibid. § 27, and see ibid., Note 24.

[20] On the whole subject of § 17 see the references given above in Note 15.

[21] "Unless you start with a given." See on Bk. III. I. IV. § 15, and the Index, s. v. *Premises*.

[22] "Selection." See Index, s. v. *Judgment,* and *Selection.*

[23] It is certainly an error to speak of a *mere* suggestion, whether from another mind or from one's own senses. No *mere* suggestion is possible in fact. Any suggestion is really such because of the mental world which receives and appropriates it. And the issuing judgment, depending thus necessarily on an implied whole, is so far always an inference. Certainly, so far as the particular conclusion is due to force, the judgment becomes, so far, more impure. It contains and is based on a greater amount of external and unknown conditions. But the aspect of mediation remains unfailingly, and the "mere judgment" (of § 18) is no more than an erroneous abstraction. On the whole subject see T. E. II.

[24] "Judgment then . . . activity." I should have inserted after "then," and, again, after "reasoning," the qualification "so far." "Intellectual" is used here in the sense of "logical." See Note 27, and the Index, s. v. *Logical.*

[25] Sections 19-24 possess, I think, a real importance, such as to deserve the close attention of the reader. On the subject of them I would venture to refer him to *Mind,* O. S., No. 47, and to *Essays,* Index, s. v. *Inference.*

[26] "This ideal construction." Add "as is stated more accurately lower down in this Section."

[27] For "ideal" and "universal" see the Index, s. v. *Association* and *Universal.* For "logical" cf. § 22. A process is *logical* where it has an object which, as a subject, is therein and thereby self-developed ideally.

[28] The connection is always ideal and through universals, but, none the less, the process at its end may re-particularize itself not as truth but as fact. Hence in the result not only may the logical identity be broken, but this result may even cease altogether to be before us as "objective." The process, that is, where still "objective," may in the end present us, not with a truth *about* our first object, but with *another* objective fact. Or, again, the process may even result in something which, wholly or partly, is not any object before us at all, but is, on the contrary, felt as our mere emotional state. We have here neither (a) a truth about our original object, nor (b) have we a mere change of object, with a consequent breach of logical identity. We have ended (c) in what may, in this connection, be called a bare psychical fact.

[29] The interesting question, noticed here (in §§ 20-22) hardly tends, I think, however it is answered, to affect the general conclusion. I have touched on the subject again in *Mind,* O. S., No. 47, and N. S., No. 33 (in the last few pages of that article).

[30] For "selection" see Note 22.

[31] "A quality that we recognize." Add "or may recognize."

[32] "To this doubt." The meaning is that the intellect is only one specification and result of our general nature and its laws. The intellect therefore can not in the end be taken as something apart. I returned to this point in *Mind,* O. S., No. 47.

[33] "A pure perceptional series," i.e. a series that is *before us* and in this sense is genuinely "objective."

[34] "Through psychical co-existence." Add "or at least through some connection which is not logical."

[35] I have treated Imagination here only from the negative side and as mere wandering fancy. Of this we certainly can say that the result is *not* the ideal predicate of a subject which developes itself throughout. You can therefore *for logical purposes* treat the process as a simple failure and as merely psychical. And so much is all that needed here to be said. This "solution of continuity" which I noted is of course always possible, and is the main reason for that general fallibility to which in a later context I called attention (Bk. III. II. III. § 24).

We may, however, remark that even "uncontrolled" fancy brings an object before us, and so far is "objective." And imagination, when "controlled" in a certain way, becomes at once strictly logical and is itself the same as "thought." (See *Mind*, O. S., No. 47, and *Essays*, pp. 362-5.) Imagination, again, otherwise controlled, becomes what we may call "æsthetic." Here again we have an ideal development which must be called "objective," though on the other hand it is not in the proper sense logical. In none of the above cases can the process (when we speak strictly) be regarded as *merely* psychical. Any implication or statement, made to the contrary in this work, is certainly wrong, and is connected with the more general error as to the existence of "mere ideas" that in no sense claim to be real (see on Bk. I. I. § 10). But æsthetic "imagination" (to take that instance), like logical "thought," abstracts and must abstract always from the psychical aspect of its process. *Every* process is necessary; but the necessity of the psychical series is other than that which is æsthetic or logical or again ethical, all of which (by virtue of what controls them and constitutes them) must be called superior.

The result of æsthetic imagination (we must remember) is not in the narrow sense *true*. That result is not the adjective and predicate of a subject which has developed itself in a merely ideal form. The æsthetic product is true only in the wider sense of an idea which is also a real object. But, *because* the æsthetic object must be called self-existent and real, it *therefore*, though ideal, is *not* true. It has more than belongs to any truth when truth is taken logically. But on this subject see further T. E. II.

CHAPTER IV

THE MAIN TYPES OF INFERENCE

§ 1. In our Second Chapter we detailed a number of intellectual processes, all claiming to be inferences. These processes present us with many varieties of that middle operation, which we have seen is one essential part of reasoning. In the present Chapter we are to neglect many questions. We are not, for instance, to say anything about the validity of these processes, nor to attempt to reach their ultimate nature. We shall be content, if we can show throughout their detail two or three main types of ideal experiment.

There are two general classes [1] we can at once point out. The operations we mentioned seem to fall under the heads of synthetical construction and analytic elimination. We may at least say of these, that we find no inference which does not contain one of them.

§ 2. In that form of reasoning which is most familiar we verify the presence of both these activities. Thus from A — B B — C we go by a synthesis to A — B — C, and then use elimination to bring out A — C. The preparation which precedes the final intuition, has thus two aspects. But on the other hand this does not seem [2] to hold good with *all* types of inference. When for instance we argue without elision to a new quality of the whole (as was the case when we discovered our island), we seem to employ construction alone; and in abstraction again we do not seem to use construction at all. There is no apparent synthesis when we analyze the given, and eliding one part then predicate the residue. Yet this is not the point we are at present concerned with. To ask whether, and in what sense, the isolated employment of one function is possible, would here be premature, and at present we may be satisfied if one of these processes can be discovered everywhere. We shall proceed to assign our list of operations each to one head, but must not be understood to exclude it from the

other. Thus we shall call an inference synthesis or analysis, according as each type appears more prominent in each case.

§ 3. (A) Let us begin with *construction* and see what processes will fall naturally under this. (i) Those syntheses of relations which group themselves round an identical centre, will take the first place. Whether they end in a new internal relation, or remain joined in one whole, or proceed to a new quality, in each case their most prominent aspect is synthesis. The first class of constructions are those which are based on an explicit identity, which so to speak forces the extremes together.

As compared with these all the rest seem arbitrary. For we have in none the bond of a given centre, while in some it is doubtful if any kind of centre exists. The ideal unity is not anywhere prescribed to us beforehand. In some cases it looks as if the operation were capricious; and it is a question, to which we must hereafter return, how far the conclusion can stand either with or without this operation. Since at present these constructions seem not necessary like the first, since their middle term, if they have one, appears our mere choice, we may distinguish them here as arbitrary syntheses.[3]

§ 4. As such (ii) we recognize addition in Arithmetic, and the geometrical extension of figures.[4] In each, under differences, we find the same process of free rearrangement. I obtain a result by composition of elements, and that result is held true of the elements themselves. The same holds with Comparison. There I bring the terms together, I unite them under a certain aspect, and I then see a quality which I proceed at once to predicate of these terms. In the process of Recognition I may seem less at liberty, and still less free in Dialectic reasoning; but in both cases the main feature is the construction of a whole—a construction round a centre, which is not given, into an unity not prescribed by the premises.

§ 5. Our material so far has arranged itself under the head of Construction; and the synthesis seemed in some cases to be necessary and in others arbitrary. We pass next to the consideration of that other main type which is the counterpart of the first.

(B) The essence of *analysis* consists in the division of a given totality, and in the predication of either the whole or

part of the discrete result. In the latter case the presence of Elision is manifest, but even in the former it is to be recognized. When reality first appears as a whole and then as a number of divided units, something certainly is gained but something else is eliminated. For the aspect of continuity or unity is left out; and thus mere analysis always involves and must involve some elision.

The first example of this class may be found in Abstraction. We are burnt, and proceed from this experience to the result, Fire burns. We have first reality as giving the whole complex, we have next the elimination of all content, save two elements in connection, we have thirdly the predication of this residue; Fire burning is real. The validity of the process is open to grave doubt, but it consists in analysis followed by elision.

Arithmetical subtraction shows the same features. Reality gives us an integer five. We then divide this into units, and, removing two of them, get an integer three, which we predicate of reality. And we assume here once more that the units are not altered by the disruption of their context. This assumption may be false, but the process is clearly one of elision.

In Distinction we seem to have a new variety, but we still may find the same general outline. We are presented with elements which are taken as one. Altogether, or with reference to a part of their content, they come before us as a whole, obscure no doubt but still unbroken. In the result of the operation this whole has vanished. A and B fall apart and appear as divided, entirely or in respect of one or more attributes; and then this result is attributed to the original reality. We shall once more neglect the suspicion which such an assumption excites. Confining ourselves to the general character of the operation employed, we are able again to verify our type. A totality is divided by a function of analysis, and ignored in the product by an act of elimination.

§ 6. We have seen so far that all our examples fall under two heads. Can we advance to the conclusion that inference consists in two main processes, construction and elision? Our way is barred by an unforeseen obstacle; for we have not yet dealt with Disjunctive reasoning.[5] And it is impossible to

reduce this wholly to either process or to a mixture of both. Both indeed are concerned in it, but they do not exhaust it.

If the alternatives are given us with an explicit statement of their reciprocal exclusion, and of the sequence of each from the absence of the other, in that case we do not find a new principle of reasoning. For one of our *data* removes a possibility, and that removal does, by virtue of another *datum,* assert the remaining possibility as fact. In "A is *b or c*" and "A is not-*c*," by combining our premises we bring in not-*c,* and so banish *c;* and, this affirmation of not-*c* being elided, we can then join *b* directly to A. Thus where the "or" is *explicit,* we have nothing which falls outside our two principles.

But suppose we start with possibilities not given as strict alternatives. If, for instance, A may be *b,* and again may be *c,* and can be nothing else; and if we further suppose that A is not *c,* what conclusion can we draw? Can we go to *Therefore* A must be *b?* We do indeed make this advance, but the advance is made on the strength of the fresh assumption that any unopposed possibility is real. And this means a new principle.[6] For here what we predicate is not the residue of truth, but the remainder of chance. We attribute to the real, not something first given and then worked upon by our act, but an issue from premises which afford nothing positive. We do not go simply from the mutilation of a whole to the acceptance of a part, but we also leap from the possibility of that part to its unconditional existence. This principle, which we before had need to mention (Chap. II. § 26), and which will engage us hereafter, will not fall under the head of either analysis or synthesis.

§ 7. Disjunctive reasoning may employ all three processes, but it certainly need not do this. Where alternatives are explicit, we have seen that it is content with the use of two. And there is another instance[7] where two are enough. For where the process is *ponendo tollens*—where from "A may be *b,* and A may be *c* (though not both), but A is *c*," we advance on the strength of an ideal synthesis to "A excludes *b*"—we are not forced to cross from the possible to the actual. We remain in the latter, and the exclusion of the possible is, as such, no real quality of A (vid. Book I. Chap. III.).[8]

But in other cases three movements may be seen. The argument constructs and then eliminates; and in the end the residue is predicated with a vital change in its character. Under this general type, which calls in the third movement, we may point out several varieties.

In the first of these (§ 6) the possibilities are given, not as explicit alternatives, and yet as together exhausting the subject; and also along with these possibilities may be given the actual exclusion of one. This is the first variety. In another we are left to make a complete exhaustion for ourselves; and again in another we may have no possibilities given us, and may even have no statement of exclusion. In this last extreme case we are reduced to operate with mere *suggestions*.[9] Thus if on trial *b* is found possible, and A excludes the suggested *c, d,* and *e,* and if in the end we can find nothing else which we are able to suggest—then we advance to the conclusion, A must be *b*. We have conjoined *b* with A, have eliminated the rest, and have boldly leapt from "may be" to "must be." Here the exhaustion was not guaranteed, nor the exclusion given. Our *datum* was A; and it was we ourselves who constructed the whole, assumed its completeness, elided one part, and then sprang to the actuality of our product.

In all these latter varieties of disjunctive reasoning, we have first synthesis and then elimination, the whole consummated thirdly by a transition to fact from mere possibility.

§ 8. In this last section we have already provided for Apagogic inferences (Chap. II. § 29), and have finished our rapid survey of the principal classes of reasoning. We may now present the result in a tabular form, asking the reader to bear in mind one thing. He must remember that, when a process is referred to one head, he is not to assume that the other type is absent. We are to class each operation by its more prominent feature, and to neglect for the moment our additional step from the possible to the actual.

A. *Construction.*

(i) Where the whole is made *out of* the *datum*
- (α) necessarily.[1]
- (β) arbitrarily.[2]

(ii) Where the whole is made *beyond* the *datum*
- (α) necessarily.[3]
- (β) arbitrarily.[4]

B. *Eliminative analysis.*

Where, the whole being given, the elision is { (α) necessary.[5] (β) arbitrary.[6]

We may enumerate the processes here presented. We have in No. 1 the three-term inference which we first discussed. In No. 2 we find addition and comparison. No. 3 gives us recognition and dialectic movement. With No. 4 we reach determination (positive or negative) by means of a suggested possible synthesis. Thence we come in No. 5 to that disjunctive reasoning where the possibilities are independent and one is excluded. Then No. 6 closes the rear with abstraction, distinction, and arithmetical subtraction.

We may append three remarks. The first of these is that the Hypothetic judgment [10] may be assigned to No. 3. It may be said, no doubt, that we are at liberty not to suppose; but then on the other hand we also elsewhere are free not to think. The premise is a *datum* not given as real; I treat it logically, and thus get a result which I conditionally predicate. But nothing here is my choice, save the resolve to suppose and then to see what logically comes. But so much choice as this seems to exist in all reasoning, since everywhere it lies with ourselves at least to think or not to think.

In the second place addition and subtraction will be necessary where the quantities are given marked with *plus* or *minus*. But their result in this case is hypothetical. The signs do not belong to the nature of the quantities (Chap. II. §§ 6 and 10). And the reader must remember that free spatial rearrangement falls under the heads of 2 and 6.

And the third remark we have to make is this. The process of suggesting possible predicates, and of then proving one by excluding the others, may be regarded as a mixture of Nos. 4 and 5; it is not worth while to place it in a class by itself.

We may end by stating briefly the conclusion of this Chapter. The middle operation of every inference consists of analysis or synthesis, or both; and in certain cases it invokes besides an additional principle.

ADDITIONAL NOTES

[1] "Two general classes." See further in Chap. VI.

[2] "Does not seem" should be "does not at least *seem*."

[3] "Arbitrary syntheses." Cf. the next Chapter, §§ 1 and 2. The syntheses are arbitrary in the sense that the points of connection, from which the particular construction follows, are not *given*. On the other hand we must remember that the ideal whole on which any and every inference depends is never itself given completely. See on Bk. III. I. II. § 6.

[4] For the processes mentioned, in §§ 4 and 5, see the Index. And, for Elision and Elimination, see further on Bk. III. I. II, Notes 21 and 22.

[5] Disjunctive Reasoning. The account given here (in §§ 6 and 7) is to a considerable extent wrong. For correction in the main, see Bk. III. I. II, Note 24.

[6] "A new principle." See the Index, s. v. *Possible;* and, for the error here, see the reference given in Note 5. The reader will note that, for anything to be possible, it must be connected with the Real by some ground. Hence, if all counter-grounds are removed, it is connected forthwith as actual—to say nothing of any fresh positive support that it has now gained. See, once more, ibid. And cf. T. E. XI.

[7] "And there is another instance, etc." But is the inference here really disjunctive? To make it so strictly, would you not have, at least practically, to include all possibilities, other than *c*, under *b*?

[8] "No real quality of A." But see on Bk. I. III. § 13.

[9] "In this last . . . suggestions." For this error, see Bk. I. I. II, Note 24.

[10] "The Hypothetic judgment." The inference itself here is necessary, though not the whole process. From "A(x)b, b-c," you can not, that is, reach "A is c," unless you have been able to remove the x. For the Hypothetic Judgment see T. E. II, and on the nature of Supposal see Bk. I. II, Note 40.

CHAPTER V

ANOTHER FEATURE OF INFERENCE[1]

§ 1. We must search into the nature of these general processes, but there is a question which presses for immediate answer in the present Chapter. We supposed first of all that every inference was a construction round an identical centre. We have since then discovered that reasoning demands a self-same subject, that appropriates the difference got by the experiment. But we must return to examine the middle operation, the experiment itself. We now know that our first supposition needs correction, since the experiment is not always a construction through a *given* identity. But this result does not satisfy us. We want to know if our middle process can ever dispense with *all* identity. There clearly is not always an *explicit* common term; and when this fails shall we say that everything has failed? Or can we still say, there is an *implicit* centre, unavowed but active? Our instinct leads us to embrace this latter suggestion.

§ 2. But how shall we support it? There is obviously some unity in the operation, but it is doubtful if this will give us what we want. Mere togetherness (so to speak) before the mind is clearly insufficient; and we must hence take the mind itself as a centre, not given but used, and see if on this line we can make an advance. We may say, "In all relations, where the terms are able to be separated in idea, the relation may be considered as an interrelation.[2] The result is an inference, a putting together of elements which before that inference existed apart. And since those elements were all related to one mind, and because of that unity now come together, the mind may be taken as a common centre of interrelation." Is this what we want? We must answer in the negative; for though I believe it to be true, and a truth whose importance can hardly be exaggerated, yet in its abstract form it is simply irrelevant. It tells us that some relation of some kind exists

between all objects of thought, and that they are all interrelated. But then this knowledge must fall outside of any *special* inference. Thus A and B are called equal[3] *because* I have compared them; but, before I compared them, I might have known that *some* relation must exist between them; and this knowledge is therefore not the reason why I now know that they are *equal.*

§ 3. From *mere* interrelation you can make no passage to a *special* relation. It does not matter how actively the mind may work; you may suppose an intense appreciation of the fact that we have a common term in the mind; you may postulate any degree of attention, or the preferential application of the intellect to this fact—yet from these general premises you never will get to the particular conclusion. For the centre of the operation, if we are to find it at all, must be found in the unity of that special operation. We can not settle such a point by abstract reflections, which at the most serve to raise a vague presumption in our favour. If we wish to exhibit the identity in our processes, we must be prepared to show the central point in each particular case.

§ 4. Let us start with what we called Recognition and Dialectic. The given here is Aγ, and the mind meets this with a function γ–δ, which extends A to δ. The central point is here obviously γ; and round this point, and by virtue of its identity, A and δ are brought together. We must notice however that γ–δ is not given, and further that γ–δ may never be explicit. Our consciousness may pass straight from Aγ to δ. It may never suspect the presence of that common middle term on which everything depends. Hence we might say that we have subsumed the original *datum* under a function of synthesis, which never appears except in its effects; but this statement would be incorrect, since the process is not a subsumption at all. It is a construction by means of a hidden centre.

This seems tolerably clear, and it gives us a principle to which we must hold. But in its further application the truth becomes much more difficult to see.

§ 5. If we consider the operations of Comparison and Distinction,[4] we are at first unable to perceive any middle. The mind, we may say, is the point which compares, and the

centre which separates; but such a mere generality, however important, we agreed was not the answer that is wanted. The question is whether in the process itself we can find a special interrelation; and we shall now make this attempt.

Both the processes exhibit a double aspect of unity and diversity. In Comparison this fact is at once apparent. In "A = B" we have of course the differences of A and B. These differences are held together in relation, and are combined on the strength of a common point, since the *quantity* of A and B is the same. Thus the relation of each difference, A and B, to an identical quantity is the very ground of their interrelation. Take that third term away, and the connection vanishes; reproduce it, and the mind requires nothing else in order once more to construct the relation.

But is it so too with Distinction? Take for instance, "A is not equal to B," and where is the third term? I answer, It is there, though we do not perceive it. For consider the case thus; A and B, it is certain, are still related, since they are taken as different; and their difference is not abstract but specific and definite. It is *as quantities* that we fail to find them identical. But, this being grasped, observe what follows. Just as the general perception of difference implies a mind which distinguishes, and which serves in some vague character as the base which supports that *general* relation [5]—so it is with every special difference. What is true in general will prove true in particular. All objects of our thought in the first place must have *some* relation because, as our objects, they are all identical; and again every distinction of special qualities, such as sounds or colours, takes place on the basis of a special community. For instance, the separation of red from blue must imply the unconscious taking of each as a colour; and that felt common quality is the basis upon which the separation is effected. It is thus too with quantities. A and B are perceived to be unequal, but inequality presupposes that both have quantity. In this they are the same, and it is because of this point that they can be seen as unequal. Thus identity in regard to the possession of quantity is here the third term that was required, and it is relation to this centre which interrelates the quantitative differences. In short distinction can

never be effected except within an area of sameness; and, once outside this area and common meeting-ground, the relation would vanish.

§ 6. Perception of identity and perception of difference are two modes of one function or two functions of one process. The result in both cases depends on a synthesis of diversity with unity, but with this likeness there goes a striking contrast. Take first Comparison. Here we start with the difference, and at the end this difference has been partially lost, and the identity of the terms has become explicit.[6] It is otherwise with Distinction. We begin here with a vague and undiscriminated unity, but in the conclusion the differences appear, and the identity has passed away from our sight. In both processes alike the sameness of the terms is the middle point from which everything hangs; but that centre is used in two diverse ways. In the case of Comparison it is the receptive identity which, standing opposite to external differences, takes them into itself. Content with a partial recognition of its power, satisfied with a declaration made by the differents that in some point they are the same, the unity slurs the remainder of diversity, and becomes the mere relation of similars. But the process of Distinction shows a contrast to this. The identity here turns against its own unseen differences, and makes them explicit. It pronounces the relation which sunders them apart, and is led, by the emphasis of this its own activity, to forget its own being. Thus the differents appear as independent varieties, which subsist and form relations in a passive atmosphere.[7] The identity which has generated them, which separates and supports them, is slurred even more than in the former case diversity was slurred by Comparison. We might say that one tends to think less of the relatives and more of the relation; while the other quite sinks the active relation, and keeps its eye on the terms related.

§ 7. In the ensuing Chapter we shall return to this point, but at present we may try to develope our meaning. In Comparison and in Distinction we employ certain functions, and you might say incorrectly that these processes consist in subsuming the given under certain activities. What are these activities? In a clumsy fashion we may represent them as follows.[8] In Comparison we apply to the original *datum,*

A and B, a function of synthesis,

. Through the possession by A and B of the qualities *a* and *b*, we unite them in relation to our common point X. The result may be depicted as

; but, since the unity is degraded and becomes a relation, the conclusion which appears is simply A — B.

For Distinction we must bring in another formula. We may be said to start with a vague totality, in which is latent an internal diversity; and we may represent this *datum* as

. To this unity we apply a function of analysis

. Then on the one hand X, now identified with *x*, becomes less visible; while, as this fades away, the other side appears, and *a* and *b*, developed by the application of the function, appear as A and B. The immediate result is

, but, since *x* is wholly slurred, A and B fall apart as separate facts which show a distinction.

§ 8. It would be interesting to enter into the finer metaphysical detail of these processes; but we can afford no more than a mere passing remark in protest against an obstinate prejudice. In answer to the doctrine that sameness and diversity imply one another, *at least when perceived,* we shall be told that Difference is independent, and derives its origin from the shock of change. And for the apprehension of this shock, it will be added, no activity is required. Thus we have no ideal operation at all, and may so dispense with the illusion of an ideal unity. But this objection, I must reply, depends upon a complete mistake. It partly confuses feeling with perception, and partly is wholly wrong about feeling. I will take the second of these points first.

If a shock is intended to be *felt* as a shock (and I suppose it must be so intended), then the feeling must be compound. There must be some feeling to start with, in collision with which the inrush of new feeling disturbs the mind. For if the

place were quite empty the new arrival might appear, but could hardly make a striking sensation. Thus the shock presupposes another element, and it implies the felt relation of both.[9] But, if so, once more we have found in this relation a point of identity, a common sameness not of perception but of feeling. In other words it will be the continuity of the feeling which makes us sensible of the change and the shock; and this is our first point.

But we have not yet reached the *perception* of change, and the failure to see this is the second point of error. Think what you like about the felt shock, you are yet a long way from the consciousness of difference, and you can not advance without calling in an ideal identity. Take a sensation A, and let it change to a wholly different C. This will give you the succession of two psychical events, but not the perceived relation of change, and the question is how this relation can be given. It can not be given without *retention*,[10] and retention is not possible unless what precedes and what follows possess some point in common. But let AB (for example) be followed by BC, and the problem is solved. Here the identical B redintegrates A; or (if you prefer to say so) the retention of AB gives us A with a point in common with C; and, in either case, we have a result which we may write . No change can be perceived unless by means of an ideal continuity.

§ 9. This ideal identity is a necessary element in the perception of difference. Without such a centre the extremes would never be held together, and their relation would never come before the mind. We may represent as follows the mode in which this unity operates. In a whole , as it passes before us, the difference *bc* is not at first noticed. Hence we do not perceive *b* and *c* to be discrepant, till we try to identify them.[11] But, in going from A*b* on to A*c*, the self-same A reproduces *b*, which, thus forced upon us in identity with *c*, is rejected by it; and then, A retiring from view, we perceive the difference as B against C.

How then do we become aware of identity? We must have differences B*a* and D*a*, and we must feel, when we pass

from one to the other, that they are not *all* different. This feeling comes from the presence of *a*, which is not yet explicit. It rises to explicitness, through the reproduction of B, and the consequent collision of B with D. By means of the alternate rejection of these discrepants, the common identity *a* is set free; and the relation of similarity between B and D is brought clearly before the mind. We may be said to begin with an implicit sameness, then, by working with that, to make our implicit difference visible, and from this visible difference to return back to sameness, bringing out in our movement a relation of similarity, and perhaps in addition a seen and explicit point of identity.

We can not further pursue these enquiries. For our object is attained if we have succeeded in showing that, alike in Distinction and in Comparison, we obtain our result by an active centre which stands in relation with both the extremes.

§ 10. After leaving the perceptions of sameness and difference, we come next to the processes which depend on these perceptions. There are a number of remaining inferences which consist in re-arrangement, in the new grouping of elements within a whole. And here we may make a broad distinction. If our fresh distribution starts from analysis, then the process falls throughout within that whole which is given us at the start,[12] and this whole will be the unity, relation to which interrelates the elements. But if on the other hand our re-arrangement demands a construction outside the original *datum* —if, that is, we must first extend what is given by addition of fresh elements, before we are able to find our conclusion—in this case our *datum* is not the whole required.[13] The entire ultimate construction implies a fixed ideal centre of its own, and the extension and re-arrangement will therefore take place within a whole which includes our *datum*, a whole which, though invisible, still is active. We must apply this general truth to our detail.

§ 11. If we consider the free construction of elements in space, we find at once that this movement implies a centre of identity. Unless the extended parts that we deal with came into one whole, our process would be nugatory. We should begin and end with mere isolated fragments, indifferent to each other, neither united nor yet sundered by spatial relations.

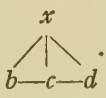
Our conclusion implies that the elements, we begin with, are members of one space. But, if they belong to one extended whole, they either must have identical points, or must all be connected with some common centre. So much is clear, and will perhaps be admitted. On the other hand a serious difference of opinion would at once arise, if we asked where the middle of space can be found. Is all motion merely relative? Is there again an actual existing centre by which all else is determined? Or is not this point of reference merely ideal, something that does not and indeed can not exist? But we need not answer these questions here. It is enough if we agree that all spatial grouping, perceived or imagined, implies some kind of common focus, whether that focus be before us explicitly, or whether it be a mere unconscious implication. But, if so, it is clear that our new relation springs from interrelation, and depends upon a point of identity.

§ 12. And the same thing holds when we come to Arithmetic. When an integer is divided the analysis takes place within the limits of that unity, and the elements are separated from that centre of dispersion. The point of interrelation no doubt disappears in the product which we see. It becomes invisible; but if you removed it wholly, you would find that your discrete units had vanished. They would in this case have lost the common relation which keeps them apart, and gives them their show of independence. But just as here continuity is active in the production of discretion, so again, when the discrete returns once more to explicit oneness, an implicit *continuum* is presupposed. If the units had no relation to a common centre, they never could be added. Let us consider this last statement.

Even if we adopt an erroneous view, the truth of our statement will still be plain. Let us suppose that the units have no relation amongst themselves, but are simply pushed together by the action of the mind, or fall together in the mental space. But, in the latter case, how could they all fall towards one point, if they were not co-partners of one spatial world? And how once more could that world be single, if it had not got some kind of centre? And, in the former case, where we suppose that the mind is an external agent which forces the unity, it surely could not act upon all the units

unless each single unit were related to this one operator. Nor again would this one *special* operation be performed, were it not that the agent stood in one special attitude to all the pieces of material. So that, even if we accept such mistaken views about addition, we are still compelled to believe in an interrelation.

But in reality the units are not independent, nor need we invoke external violence to crush them together. For they arise and they consist in the suppression of an integer, and would not be many if they were not thus one. Their relation to each other is the degraded form in which their ideal continuity is manifest; and, when we think out this onesided appearance, we are forced to advance. The discretion of the units implies a connection of each with an unseen centre of repulsion; but that means on the other hand their common interrelation by virtue of this unity, which so reappears as the integral whole in which they subsist. We can see this even when we take at haphazard a number of units and increase it at our pleasure. I will not ask *how* we are able to do this, though the answer to that question might help us forward. Suppose that *somehow* the new unit is got. Yet, before it is added, it must have a relation to the units that exist; and this relation implies a common world of number,[14] and a central point. If this were not present the mind could not add; and therefore the addition makes explicit an ideal unity which was active though latent. It is on the strength of this idea that the mind can work and can make the idea visible. Continuity is no ghost, that is laid in the units and conjured up to surprise us in the integer; it is the soul which unseen is felt in the limbs, and returns to the centre with a fuller life.

§ 13.[15] Abstraction is the process which next claims our attention. It first involves a function of analysis. In A we distinguish *b, c,* and *d,* and we may say that we start from a datum xA and then proceed to a result 

. This, we know already, has been got by means of an identical centre and still implies it, for the unity A has been sunk but survives.

Let us proceed to the next step. We take *b–c–d,* and re-

arrange these elements, and so get, by fresh grouping, *b–c* on one hand and *d* on the other; thus, *b–c* | *d*. Now identify the *b–c* and the *d* in with the last-gained result, and we reach the conclusion , where each relation to *x* seems independent of the other. One or more of the elements, which analysis showed within the whole, are identified with elements that appear outside the whole, or are independent of it. We have here Subtraction or the Method of Difference.

But our process still implies a centre of identity, since the grouping, whether it conjoins or separates, must be carried on from one common point of attraction or repulsion. That point however will, according to the case, be manifest or invisible.

§ 14. And coming in the end to Disjunctive Reasoning, under which head falls the Apagogic Method, we may verify once more our general law. Where the possibilities are given us within the unity of the given subject A, it is solely because they are identified in this, that *b*, *c*, and *d* are found to be discrepant.[16] Their relation to this centre thus interrelates them. And, in the further operation of removing one part so as to predicate the residue, our construction and subsequent elimination must rest on the basis of an ideal mid-point. We have discussed this already by anticipation, and it is not worth while to repeat the argument.

When once more the possibilities of A are not given us, and when we make them ourselves by a free suggestion,[17] then so far the process is constructive synthesis. We should not think of *c* or *d* in connection with A, if there were no reason for their appearance. And the reason lies in common points of sameness γ and δ. It is on the strength of these that *c* and *d* are connected with A, and when we find that the suggested connection will not hold, we can discover that it was a mistaken inference upon the ground of identity.

§ 15. The result of this perhaps too brief survey may be summed up thus. Not only does inference preserve an identity throughout the whole process, but in the actual experiment itself we rest upon a central sameness. There is a point of

unity in every operation, and each special operation has a special point of unity. We have thus recovered that earliest view with respect to inference, which seemed torn away from us. But it does not return intact. We can not call the conclusion in all respects the necessary outcome, and we have not got a given point in two given relations, which thus interrelates them to form our conclusion. That conclusion in some cases, we have seen, is not made unless we *choose* to make it;[18] and the arbitrary character inherent in these processes gives rise to doubt and to grave suspicion. In the Second Part of this present Book these doubts will be considered; but we must first endeavour more exactly to apprehend the operations we have just been passing in review.

ADDITIONAL NOTES

[1] The main point insisted on in this Chapter is that all inference depends on a whole, which not only is ideal, but is also individual and special; and that by this alone is secured that identity of the middle without which is no inference. And, so far, the Chapter seems satisfactory. On the other hand we must remind ourselves that the required ideal whole is not anywhere (even in Analysis) *given* in the stated premises. In inference we can not in one sense pass beyond our *datum,* since we must keep to self-development. But, on the other hand, if there is to be development at all, the *datum* must in a sense be transcended. We, in other words, require, for a conclusion, something *in addition,* while, if that something is merely *added,* the whole inference is destroyed. But—to leave this main principle—the question as to how much is contained, in each case, within the premises given, and how much, in each case, must be supplied from elsewhere, is a matter of detail. The whole problem is dealt with in T. E. I; also cf. the Notes on the last three Chapters, as also the Index, s. v. *Premise.* The reader will notice that the formulas used in this Chapter are subject, in accordance with the above, to correction throughout.

[2] "In all relations . . . interrelation." It would be better to have said "In the case of any relation, where you can start with the terms as separate, the resulting relation can be taken as an interrelating."

[3] "Thus A and B are called, etc." For "called" here substitute "are inferred to be, etc."

[4] For Comparison and Distinction see Bk. III. I. II, Notes 13-15. The discussion, which follows here (§§ 5-9), is, I venture to think,

important and in the main correct, though it certainly is insufficient. See, once more, T. E. I.

[5] "Just as the general perception, etc." "General" does not mean that there really is in fact such a thing as *mere* difference. It means that our actual perception (as distinct from feeling) may not go beyond that result.

[6] "At the end this difference . . . explicit" should be, "At the end this mere difference has been lost to view, and the identity of the terms (together perhaps with their specified differences) has become explicit."

[7] "A passive atmosphere." See *Essays*, Index, s. v. *And*, and cf. *Appearance*, Chap. II. I ought perhaps to remind the reader that the nature of "And" has been most elaborately discussed by Hegel under the head of "Auch."

[8] In § 7 the formulas used should be amended in accordance with T. E. I. I still think that the matter of §§ 7 and 8 is right in the main, though the detail, I agree, is more or less open to objection. The reader may compare here the treatment in *Mind*, O. S., No. 47, and I would refer also to *Appearance*, Index, s. v. *Change, Succession, Time.*

[9] "The felt relation of both." But this is, so far, *not* experienced *as* a relation. We have, so far, a feeling which is altered, but still remains one, and remains even the same feeling. Its diversity, to be felt, implies its identity. But, with such mere felt difference, we have not yet got before us a "one and another" or a "one and then another," for these are *relational* perceptions. It is such perception which is meant lower down by "the consciousness of difference." On the nature of the Present, see Bk. I. II. § 11 foll. And for Feeling, as Immediate Experience, see *Essays*, Index, s. v. *Feeling* and *Immediate.*

[10] *Retention.* The immediate experience of change and difference, or a succession of such mere feelings, could not by itself generate the relational perception which follows. But it leaves behind it what we may call a tendency in the mind to move hereafter, under certain conditions, in a certain way. See *Mind*, O. S., No. 47, and the Index, s. v. *Reproduction.* However, I once more agree, the detail of the process by which we pass from Feeling to relational consciousness is open to question. In any case mere "after-sensation" (*Appearance*, p. 99) could not possibly by itself account for this passage.

[11] "Discrepant." This dependence of incompatibility (see the Index) on an attempt to identify, is further explained in *Appearance*, Appendix, Note A.

[12] "The process falls . . . within that whole &c." But it never does so *entirely*. See on § 1.

[13] "The whole required." On the whole which contains the possibility, and in a sense the reality, both of this or that schema and of all schemata, see T. E. I.

[14] On Arithmetic generally, and specially as to the nature of the "common world of number," see ibid.

[15] On the processes mentioned in §§ 13 and 14, and on the ideal whole everywhere required, see, again ibid.; and cf. the Note on Bk. III. I. II. § 25.

[16] "It is solely because &c." See Note 11.

[17] "A free suggestion." "Free" (if it does not simply repeat "not given") means, I presume, "proceeding from A itself, and not from that which is external to A." And certainly this process is mediated; while a suggestion, so far as it comes to us otherwise, is no inference. On *Suggestion* see the Index, and cf. Notes on Bk. III. I. II. § 25, and III. § 17.

[18] "We *choose* to make it." On this "arbitrary character" see Bk. III. I. II, Notes 7 and 10.

CHAPTER VI

THE FINAL ESSENCE OF REASONING

§ 1. If, considering once more the processes we have surveyed, we ask for the principles which underlie them, we discover first of all the Axiom of Identity.[1] What is true in one context is true in another, and what holds of a subject within an experiment is valid also beyond that experiment. And when, advancing from this, we approach our array of ideal operations, we see that they fall under analysis and synthesis. These, if we take in that other principle of movement, by which we go from the possible to the actual, seem to cover the ground of all our material. On the Axiom of Identity we propose to say nothing more at present, but there is much in the rest which remains unexplained. Let us for the moment dismiss the principle of transition from a surviving possibility, and let us turn our attention to analysis and synthesis. Although at the cost of a partial repetition we must try to penetrate their more hidden nature.

§ 2. We may begin by asking an obvious question, Are these two operations really two, and, if so, in what sense? Are they unconnected, that is, and two alien species of a single genus, or have they something in common beyond the universal type of inference?[2] The answer to this question leads straight to the conclusion which we are to reach. We shall try to show that analysis and synthesis have so much in common that they are actually identical. They are two different sides of one single operation, and you never can have one without having the other. Hence though different they are the same.

§ 3. And they are the same in this way. Take an act of analysis in which A becomes (A) *bcd*. The elements in the result come to us as separate, but this very separation involves a relation. They are distinguished by virtue of a central identity, and they stand thereby in some kind of relation with one another. But this relation is synthetical. It did not exist

before the operation, and has resulted from it. Thus the analysis, whilst analyzing, has shown itself synthesis.

Now take an act of synthesis. We have A — B, B — C, and from this we go on to produce A — B — C. We have got to a relation which before was absent; but our process is also an act of analysis. For A, B, and C are now related within a whole;[3] these terms and their relations are the constituent elements of the whole A — B — C. And yet, as these members, they did not exist and could not exist till that whole was realized. Thus the synthesis has analyzed while it seemed but to conjoin.

Summing up the above we may state it so. Analysis is the synthesis of the whole which it divides, and synthesis the analysis of the whole which it constructs. The two processes are one.

§ 4. But with all their unity they are still very different, for they are opposite aspects and sides of one movement, and are held apart by three special diversities. In the first place (i) the given material is different. In the second place (ii) the product is not the same. And finally (iii) the operation of which we are conscious differs in each case. Let us take these in order.

(i) In analysis, first, we do not go beyond the area which is supplied at the beginning.[4] The whole is given, and we work upon that whole to produce a synthesis of elements within it. We do not travel outside our explicit starting-place, and hence we may say that analysis is the *internal* synthesis of a *datum*. But in synthesis we find that the opposite holds good, for the whole is not given any longer, but is made. Our act is the analysis, not of our visible starting-place, but of something implied, unseen, and ideal. In other words the totality emerges for us in the product. Thus in analysis we operate upon an explicit whole, and proceed to its invisible inside. In synthesis we begin with an organic element, or elements, not seen to be such; and passing beyond each to what is outside, so bring out the invisible totality which comprehends them. This difference of start is the first point of diversity.

§ 5. And it leads to the second (ii). As the material supplied is in each case different, so again the product is not the same. In one case the whole precedes and is followed by its

internal relations; but in the other case external relations[5] come first and so produce the whole. Where the result appears as the further determination of a given element by something outside it, the process is synthetical. Where the result gives a view of something that lay hid within the given, the process is analytical. Thus it is analysis where your conclusion falls within the boundary of your original premise; but it is synthesis where the conclusion falls beyond each premise and transcends its limits. Analysis is the inward synthesis of a *datum,* in which its unseen internal elements become explicit. Synthesis is the analysis of a latent whole beyond the *datum,* in which the *datum* becomes explicit as a constituent element, bound by interrelation to one or more elements likewise constituent. This is the second diversity.

§ 6. And the third is implied (iii). For with each we are conscious of a different side in our one operation. In analysis we do not keep sight of the synthesis, and in synthesis we forget the act of analysis. In the former case we start with an unity, we break this up by a function of diversity, and ignore in the result both the unity that was given and the function that was applied. The product presents us with separate elements; but these elements were *got* by ideal discretion operating upon an original continuity. This given continuity, and this ideal discretion, are not visible in our conclusion; though implied they are latent. But in synthesis the unity, latent at first, becomes explicit in the end, and what we ignore is its previous activity. The construction, that was wrought on the original discretion, was the ideal function of the final unity.[6] But this we forget, and at last are unaware that the elements, which seem to have *made* the whole, can more truly be said to have been found within it. Let us try to state this otherwise.

We may say that in analysis the given becomes the continuity of fresh discretes, while in synthesis it becomes one single discrete in a new seen continuity. But our consciousness of this process is in each case fragmentary. For in one we ignore the continuity of the product, and in the other we forget its once helpless discretion. In analysis we employ a function[7] of plurality in unity, in synthesis we use a function of unity in plurality; and we do not *see* either. In the result

of the first we throw away the continuity on which we worked; and emphasize only that hidden discretion which before was latent. In the result of the last we reject the original hopeless discretion, and emphasize that continuity which, with its ideal activity, we before ignored. In both analysis and synthesis what is used is not seen. An unseen discretion is the agent which procures for us known discretes, and an implicit continuity makes behind our backs an explicit *continuum*. But, if so, in these processes we have found difference with identity, identity with difference.

§ 7. If we do not object to clumsy forms,[8] we may symbolize our general doctrine thus. In analysis the given A, *plus* a function , gives a conclusion $b - c$. But in the result we forget that β and γ have no validity except within x; and that hence $b - c$ must imply the whole A. In synthesis again we start with A — B, B — C; and this *datum*, plus a function , produces A — B — C. But here we forget that, without our function, A — B and B — C stand sundered by a gulf; and that in our result, where they appear in unity, they are really the analysis of a whole which before was latent.

It is, I think, scarcely worth while to enlarge on this head. We perhaps have said enough to show how synthesis and analysis are essentially connected. With all their diversity they are but different sides of one radical principle.

§ 8. If this is true when we apply the principle unconsciously, it continues to be true at a later stage. We may deliberately adopt the so-called Analytic or Synthetic Method, and there is of course a real difference between them. But the result is always a two-sided product. In the Synthetic Method we begin with first principles, which are stated explicitly, and work our way down to the individual facts. We thus constructively build up a whole; but all the while we are unconsciously analyzing. In carrying our principles out into the detail, and in showing the detail as a consequence of those

principles, we are really breaking up the vague general idea with which we started, and our whole development may be taken as setting forth the particulars of this implicit whole. The same twofold character exhibits itself when we apply what is called the Analytic Method. Starting here with the confused appearance of the whole, we break up and pierce into its sensuous concretion. Thus we make our way to the relations of elements more and more abstract, what in short are termed Laws. But these Laws are syntheses; and thus the analysis which, if fully carried out, would be the entire destruction of the first confused whole,[9] reconstructs that whole as a world of abstract connections. It is everyday experience that the analysis of a subject shows its internal unity.

This reflection may prevent our staggering at the truth of a weighty paradox; "Knowledge advances from the abstract to the concrete." The confused whole, that is, which comes before our senses and pours out its riches, goes bankrupt when we refuse to accept such payment and insist on receiving universal truth. Or, we may say, the felt concrete, when distilled by thought, yields at first but a thin and scanty result. The intellectual product, which first comes over, is a connection whose actual truth holds only of a fraction of the subject.[10] It is not till we have gone further down to principles, that our intellectual results spread over the whole field and serve to unite the mass of detail. In becoming more abstract, we gradually reach a wider realm of ideas; which is thus not sensibly but intellectually concrete. What is abstract for one world is concrete in the other.

§ 9. At this point, when we remember some too hard sayings on the comparative worth of these different currencies, we feel tempted to digress and humbly to protest. But we must hasten onwards, for we have now to make another remark on the reciprocal implication of these two Methods. Induction is of course considered to be "analytical"; but, if we understand induction in its primitive sense, and use it for that collecting of instances which gives an universal, the synthesis is obvious. For we not only get internal connections in our given material, but, travelling far beyond it, we take it as one member in a group of instances. Beginning with the individual case we are investigating, we go on to others of the self-same nature. We

subsume under the universal which we have implicit in our original *datum*. Thus unawares we are using a synthetic construction from an identical point; and, by the actual employment of this latent universal, we make it in the end explicit and visible.

We may find the same unconscious substitution of process in our use of the Synthetic Method. When facts are explained by the Synthetic Method, they are actually analyzed. We reconstruct the phenomenon which we have under enquiry, and build it up ideally by an union of elements, and thus show it as the intersection-point of our Laws. And this is not all. Our synthesis never quite exhausts the fact; there is left an unessential, sensuous element, which is put on one side as irrelevant matter. And this residual product, left by the analysis which dissects the fact, may be highly important. In comparing it with our ideal reconstruction, we may find a vital discrepancy, before unseen. In this way our rebuilding, with its subsequent contrast, may disclose a feature in the case which otherwise would have escaped perception. Our synthesis has once more, and in this additional respect, turned out analytical.

§ 10. It is not in principle alone that analysis and synthesis are essentially one, but in practice also their unity tends to show itself in the product. Performing one operation we find that we have also accomplished the other; and we may err in our estimate of the relative importance and prominence of their aspects. As an instance of this blindness, I should like once more to bring on the stage the so-called Analytical Psychology.[11] There is no doubt that this possesses a right to its name; for its object is to resolve the phenomena of the soul into groupings and blendings of simple elements. But it is blind not to see that its procedure is just as much synthetical, since, starting with certain elements and their laws, it attempts to reconstruct and build up ideally the complex facts that are actually experienced. And this process is of course the Synthetical Method.

This criticism holds even if we admit every claim put forth by our English school. Even if the original elements and their laws have been got by means of a preliminary analysis, it may yet be true that in subsequent practice the analytical reduction of particular phenomena is effected *a priori* by a constructive

synthesis. The "analysis" for instance of visual extension does not proceed by anatomy of what is given, but rather by the selection of factors which together might have formed it. Thus when the claim of the school is fully admitted, we must still point to blindness; and it is possible to take a more unfavourable view. The elements, it may be said, if reached by analysis, are reached by an analysis which ignores important tracts of the subject. And again in part they are not reached by psychological analysis at all. On the contrary they are importations of coarse physical ideas, unacknowledged borrowings from crude metaphysics, preconceptions introduced without any warrant. The analysis is in short accused of resting on a vicious construction *a priori*.

§ 11. We first saw that all inferences could be reduced to the acts of synthesis and analysis, *plus* another function. We have now seen that analysis and synthesis are branches from a single stem. And it is time that we turned to search for the nature of this other element. But we are tempted to make first a fresh enquiry in connection with the processes which we have just discussed. If analysis and synthesis are thus entangled at the root of reasoning, what bearing has this on another question which we asked before (Chap. III. § 11). There was a doubt if every judgment was not an inference, and the doubt seems now to have gathered strength. For it may be asked, Does not every judgment involve a synthesis and analysis, and, if so, is not each one therefore an argument? We will begin with the first question, and then take the second.

§ 12. Let us imagine a judgment before any reproduction has taken place.[12] Certainly no such judgment could exist, since judgment proper appears long after redintegration has been used, and is a consequence of that use—but for argument's sake let us suppose such a judgment which comes straight from presentation.

Even such a supposed judgment would still exhibit both analysis and synthesis. It would in the first place analyze for this reason: the whole sensuous *datum*, the totality which appears, never can be ideally mastered by thought so as to be intellectually referred to reality. For apart from a native

tendency of the mind in an opposite direction,[13] we have a sufficient cause in impotence. Do what we will, we can not take up every single detail of the sensuous mass. We must neglect something; but the dropping of part is the forced selection[14] of the part which remains. Hence we have used compulsory and unwilling abstraction, and that means analysis.

But this judgment is on the other side synthetical. The content which it has selected is complex; it involves elements in relation, which the joint selection binds together in our minds; and this is synthesis. Nor will it avail to object that some predicates of the reality seem to be simple, and that here at all events we have no synthesis within the ideal content. For in all such cases an element of content would be found in the reality which stands as the subject. The real subject will appear in union with a certain general or special appearance, and this appearance is implicitly a part of that which we mean to say of the ultimate reality (cf. p. 114). This is still true where we predicate of the whole given fact (p. 56); for we connect some character of that whole with our adjective, and take both as qualities of the real subject;[15] and thus in effect, though not ostensibly, both fall within the predicate. We can not have the given either as simple being or as a sensuous felt mass without character or feature;* and hence, in referring to the real, we attend to and we mean the real as qualified in a certain way. This quality can not be said to become an idea, yet it is unconsciously united with the ideal content. We may therefore say that, if we go back far enough, all judgment does informally predicate a connection which is synthetical, and which is the analysis of that real of which it is predicated.

§ 13. It would be no answer to reply that in many judgments we seem quite passive. For in all these judgments we can show a selection and again a conjunction, and we may argue that hence there can be no judgment in which we are

* In metaphysics it is necessary to keep this in view.[16] When, for example, we argue that without a Permanent no change could be experienced, we should remember that on the other side it may be urged that, unless this Permanent were itself phenomenal, it could not be effective, and that the fact of there being something stable in phenomena seems deducible from no principle.

not active. True, I admit, that we do not actively go about to join and select. True again in some cases that *we* never selected, nor should have dreamt of joining, and that the act is little but the formal acceptance of a conjunction forced upon us from without. I fully admit this, but it seems in no way to shake my assertion.

Assume, as we must, that our intellect is not answerable wholly for the matter which it perceives in our sensible judgments.[17] Assume that it has no intelligible ground for many of the events which it is forced to register. Recognize the fact that mere chance strength of stimulus, blind emphasis of sense, is the reason why our perception was thus and was not otherwise. Acknowledge, in the end, that whatever intellectual assimilation by affinity you may fairly suppose to have worked unconsciously—yet at last the effective condition of the judgment is found in mere sensuous depression and relief; that it was by this that a part of the presentation was sunk, and the rest left standing in a prominent conjunction. But, I repeat, all this is nothing to the purpose; we here have got the *sine qua non*,[18] but we have got nothing else.

The intellect in judgment may be guided and led by irrational suggestions, and yet that judgment after all may be an intellectual act. For the sensuous emphasis which prompts and directs disappears in the result, and, however the mind has come to its judgment, after all it has judged. The selection and relation, which appears in the product, *is* not the mere blurring and accentuation of sense. It may have been influenced by it, and arisen from it, but its essence is now diverse. Bare difference is one thing and distinction is another; solicitation and tempting prominence are still not recognition; and we may be forced to notice, but after all *we* notice. Judgment is our act; and the separation and integration, which appear in its content, are the work of our own analysis and synthesis, compelled, if you will, but none the less active.

§ 14. From mere strength and weakness of feeling on one side, you can not cross to the other side by degrees,[19] and reach without a break a relation of content referred to reality. The distinction and separation, which appear first in judgment, imply, as we have seen, both analysis and synthesis. The

perceived exclusion of one element by another involves their relation, and hence their unity in an embracing whole. And the existence of this central unity is obvious in every conjunction. Let that be ever so external, it still presupposes a point of identity; and it is synthesis within a whole which is so differentiated and therefore analyzed.

We may thus state our result. All judgment necessarily contains a relation; but every relation, beside its pair of related elements, presupposes an unity in which they subsist.[20] Hence the judgment, in so far as it is the synthesis of the elements, is just so far the analysis of that whole to which they belong. And, since the experience into which our sensuous suggestions have to be translated, bears this character —a character not in the same way possessed by those suggestions themselves—we may say that all judgment, however near to sense, is essentially an act of analysis and synthesis.

§ 15. Our first question has thus been answered affirmatively. Let us now come to the second. If judgment is an act of analysis and synthesis, is it true that therefore judgment is an inference?[21]

The answer which before (Chap. III. §§ 12–18) we gave in the negative, seems now threatened with reversal. Inference so far has been found reducible to a double process of synthesis and analysis; and it seems that such a process exists also in judgment. Must we not then say that, as reasoning implies judgment, so judgment implies reasoning? We can not say this, and a distinction remains which it is impossible to break down. Inference is an experiment performed on a *datum*, which *datum* appropriates the result of the experiment. But in those judgments of perception, which we have been just discussing, there is properly no *datum*. I do not mean that, like the Deity of our childhood, they create their world from nothing at all, and exert their activity on a void externality or their own inner emptiness. What I mean is, that the basis, from which they start, and on which they act, is *for the intellect* nothing. It is a sensuous whole which is merely felt and which is not idealized. It is not anything which, as it is, could come before an understanding; and hence we can not take it as the starting-point of inference, unless we are ready to use that term in a somewhat loose sense.

We needs must begin our voyage of reasoning by working on something which is felt and not thought. The alteration of this original material, which makes it first an object for the intellect, is thus not yet inference, because the start has not been made from an ideal content. Before reasoning exists, there must come an operation which serves to transform this crude material; and this operation is both analytical and synthetical. But it is not inference; for, though its result is intellectual, its premise, so to speak, is merely sensuous.

Thus our primitive judgment falls short of inference in two main points.[22] It is doubtful first (i) if the operation performed is not purely capricious. Psychologically, of course, it does not come by accident; but regarded logically it looks like chance. We have no rational ground we can produce, in order to justify our result. This is the first point; and secondly (ii) the stuff, upon which the act is directed, is not intellectual.

§ 16. Thus judgment is not inference. But though the answer we have given is so far satisfactory, it ignores a question which must now be raised. Both judgment and inference are terms that can be used in more senses than one. They may stand for these acts at the highest stage of their most conscious development, or may point to the undeveloped and early rudiment of their unconscious beginning. And the question is whether this doubtful meaning has not seduced us into a common fallacy.

The evolution of the mind and of its various powers through different stages, and the survival and co-existence of nearly all these stages, lead us everywhere into difficulty, and threaten us with illusion. And the danger lies in the risk of turning through a vicious circle. For two so-called faculties stand to each other in such a way that each one, if you take it at a higher stage, presupposes the other in a less advanced form of development. Each therefore in some sense does start from the other; and, if you forget that sense, you are tempted to make the dependence absolute. While both are co-equal, you may falsely place one in front of the other. This is as common a mistake as can be found in psychology, and we may seem to have given it a fresh illustration.

For we argued that judgment could not be inference, since inference starts from an intellectual base, while early judgment

must begin with sense. And the doubt is whether a similar proof would not show that inference must precede judgment. Suppose both coeval, and progressing through stages, then rudimentary inference will come before explicit judgment, just as primitive judgment was required as a base for explicit inference. And in this case we surely should have fallen into error, for reasoning of some kind would be implied in the very beginnings of judgment.

§ 17. We did not make this mistake. When we said that some judgment was free from inference, we knew the sense in which our terms were used. What we spoke of was *explicit* judgment and inference, acts both of which end in an asserted truth, and one of which starts with a truth laid down as the foundation of its process. And *in this sense* it is true that we judge before we reason, since we become possessed of an affirmation, when we can not produce any other affirmation upon which this stands. Thus the distinction which we made remains unshaken. Explicit judgment comes before explicit inference. And supposing that both are really and in the end two sides of one act, then the above conclusion is what we might have expected. Here as everywhere the product comes to consciousness first, and the process afterwards.

§ 18. Explicit judgment is assuredly distinct from explicit inference; but if we like to go back to the origin of each, and ask if the rudiment and beginning of one comes before or after the rudiment of the other—then, I think, we must give a different answer. The earliest judgment will imply an operation, which, though it is not inference, is something like it; and the earliest reasoning will begin with a *datum,* which though kin to judgment, is not intellectual. And from the first these two functions imply one another. You can not say that in development either comes first; they emerge together as two sides and elements, implicit within one primitive whole.

If we begin our enquiry from the physiological side, we find there a process which consists of two parts, an action and a reaction. We may agree to say that experience starts with a stimulation coming in from the periphery; but then this is but one side, for the stimulation must be met by a central response. I do not mean that experience first begins with a

motor discharge ensuing upon an incoming shock. That may be true, but something else and more general is to be considered here. Unless the nerve-centre answered to the afferent impulse by some kind of reaction, whatever it may be, could we say that there existed a physiological sensation?[23] It seems clear we should be wrong if we ventured on this.

And, if we consider the same thing from its psychical aspect, we shall reach the same result. No doubt our inherited superstitions have used us to the idea of sensations, which simply walk into a mind which is nothing but empty space. But is this idea true? Is it not being slowly but surely exploded by the doctrine which sees in every sensation the product of an active mental reaction? We may say then that our senses give us sensations; but their gift contains traces of something like thought.

§ 19. I am aware of the difficulties which beset this subject, and it is impossible here to enter into them. I may perhaps briefly state the question thus. At a certain stage we should all admit that our presentations show marks of intellectual activity. Well, as you follow backward these presentations to the earliest rudiment which you can say is given, at what point will you draw your dividing line? Where will you say, We have here the crude material, which would be exactly what it is now, though there were nothing like comparison, reproduction, or abstraction?[24] And non-success in finding the proper place for this line, may lead to the belief that no place is proper, and that no known material is wholly crude. First experience is not intellectual, in the sense that we get elements conjoined and parted by relations which explicitly appear. It does not give us an ideal content marked off from the mass of confused reality, and internally defined as qualities in relation. On the contrary it comes as a vague totality which has nothing outside it, and which internally is felt as an indiscriminate effect, in which the constituents are lost to view. But it is intellectual in the sense that, when we come to reflect on its *datum,* we find marks of activities, which, *if they had been conscious,* and if they had not stopped at feeling, we must have called intellect. And I regret to say that I must leave the matter so.

§ 20. But, assuming that the first thing, which we feel or

know, results from a reaction upon a stimulus, we must deny two things.[25] We must refuse to allow that experience comes from an operation on a *datum,* or yet is a *datum* without an operation and so independent. Both assertions would suppose that something is given, where nothing is yet given. The beginning of experience is the resultant of two factors, a stimulus and a response. And here we see how the rudiments of judgment and reasoning are intertangled. The mere stimulus is not given, and so reasoning has nothing from which it could start. But, on the other hand, a mental activity can not be directed upon simple zero. We have two factors, the reaction and the stimulus, and in a certain and improper sense these two factors may be taken as the premises of a judgment. And the result again may be taken as a conclusion, not indeed from *data,* but from an indefinite ground to a definite *datum.*

§ 21. Nor can we fairly object that this conclusion is capricious, that the activity is either an arbitrary handling which *makes* its result,[26] or a formal registration which merely accepts it. Irrational indeed the conclusion must be, in the sense that the mind can give no reason for the sensation it is forced to. But capricious or formal it certainly is not. It follows from its premises with the strictest necessity, and combines in its result the character of both.[27] And again it is no mere formal acceptance. For the organism, and with it the empirical subject, has its peculiar nature which is impressed on the product. We might say that our premises are the centre and the incoming change, that the middle operation is the synthesis of both, and that our result is the conclusion. And in such a loose and incorrect sense of the term this operation is inference.

Or let us take the same thing at a higher remove. Let us pass beyond those factors which first produce feeling, and let us say that the feeling has been produced and qualifies the subject. But one feeling is, as we are told, no feeling; and the subject, merely determined as α, is so far nothing. Then while α remains, let β supervene, and the result may now be a sensation A, which is neither β nor α, but is the consequence of their union. This result is clearly no inference proper, yet it possesses much in common with reasoning. We may be said to have premises α and β, then comes their synthesis,

and a sensation A is the new result. Nor is it easy to object that at all events *for consciousness* a result must come first, and then afterwards be used. For if one feeling is no feeling, perhaps consciousness first wakens with a complex presentation, and gets by a circular process the result together with its premise. The first feeling, which is the reason why we experience the second, itself becomes explicit in the product, and is thus both starting-point and goal.

§ 22. It is clearly unsafe, when we go back beyond explicit judgment, to give priority to either function. It is better to treat their rudimentary forms as two parts of one whole; and it is this point of view from which it would be right to consider the nature of our early experience. We should in this case be led to ask some interesting and important questions.[28] If in knowledge the subject and the object are premises, is not every assertion, which confines itself to the object, an illogical conclusion? No physiologist would believe that colours or sounds were the properties of those stimuli which act on the centres of vision or hearing. But, if so, by what process are we to remove the influence of the subject in knowledge?

And there is another question, the importance of which could not well be exaggerated. If in knowledge the subject and the object may be called premises, then what are we to say of the middle operation? We have seen that this demands a central identity, and where is the central identity here? But, without it, what becomes of the relation of the premises and of the ensuing result? This question would lead to problems in metaphysics which we can not even glance at in passing.

§ 23. If we tried to pursue this line of enquiry, we should soon be carried beyond the scope of our volume. But, if we return to the immediate object of our scrutiny, the relation existing between judgment and inference, we may show how the circle, which we lately noticed, comes up in the process of reproduction. Every judgment on the one hand seems to imply redintegration, which itself on the other hand seems to presuppose judgment. The explanation is that reproduction implies a rudiment of judgment, but that this does not become explicit and show itself *as* judgment, until it has been

used as a basis of inference. The unconscious synthetical activity brings its own principle or premise before our eyes, and in a sense makes that actual. And we have here no miracle. We are given *ebf,* which, by redintegration from *abcd,* turns to *ebfd;* and from *ebfd* an abstraction may supply us with the judgment $b - d$. But this $b - d$, which is thus the conclusion, was also the basis of our reproduction.

It will be objected no doubt that in *abcd* there perhaps may be no rudiment of judgment; that there may exist in this foundation no intellectual act, no unconscious selection, or notice, or preferential attention to $b - d$; and that in short there may be nothing but sensuous strength and prominence of *b* and *d*. But in the end, as we have seen, this will make no difference. For it is admitted that, out of the past *abcd,* $b - d$ is employed to qualify *ebf*. But, if so, we ask, In what shape is this $b - d$ made use of?[29] Can it, if you take it as it comes to sense, be so employed at all? This would be quite impossible. Beside its entanglement with the whole *abcd,* it has in itself a particular character, a special colouring, which does not suit *ebf,* and which does not appear in the conclusion *ebfd*. And thus the purification of $b - d$ is an intellectual act, performed as part of the reproduction. It shows clearly that function of selective analysis[30] which belongs to judgment and to inference alike.

§ 24. It is interesting to see how, when we qualify a perception through reproduction, our act is one common process of analysis and synthesis. Let *abcd* be given, and then *ebf,* and let *b* redintegrate its complement *d,* with a final result $b - d$. The movement is synthetical, and yet it has analyzed, since it has divided two wholes. In the first place, since $b - d$ has never been given us, its use and explicit realization breaks up *abcd,* and is thus abstraction. In the second place, now that we are aware of $b - d$ and have *ebf* presented, the different contexts of *b* are a means for splitting up *ebf*. The analysis of both these compounds emerges in the act of construction.

I will work out more in detail one part of the process we have just observed. Let *abc* be presented, and then let *b* be fixed upon and considered by itself. This of course is analysis, and what I want to show is that construction can effect it.

For suppose that, on the strength of former experience, *b* is now an element in other connections. Then here in *abc* the *b* may redintegrate other elements, and may try to appear as *b — p* or *b — q* or *b — r*, all discrepant with one another and with *abc*. A collision must follow between *p*, *q*, *r* and *ac*, with the result that *p*, *q* and *r* are rejected. But this rejection may have led to a distinction. The identity of *b* amid these struggling differences may have caused the attention to be centred upon it. In the process, so to speak, it may thus have become free, and hence the synthesis will have been a condition of analysis.

We are invited to pursue this subject further, but we have done enough if we have shown the interconnection of both our functions. We must return from our digression (if it really be such), and must take up the thread we broke off before in § 11.

§ 25. Beside the functions of analysis and synthesis we found that reasoning employed a third principle. The leap of transition from the possible to the real did not seem to fall under either of these heads. We must try to see this third principle more clearly; and, if the reader will permit, will approach it indirectly. We will try to show how the defects of analysis and synthesis lead the mind beyond the limit of these functions.

We have seen that they both are two sides of one process. And it follows from this that the increase of one must add to the other. The more deeply you analyze a given whole, the wider and larger you make its unity; and the more elements you join in a synthetic construction, so much greater is the detail and more full the differentiation of that totality. We have here the antipodes of that false relation of extension to intent which we criticized before (Book I. Chap. VI.).[31] That preposterous article of orthodox logic turned the course of our reason into senseless miracle. The less a thing became the further it went, and the more it contained the narrower it became. Such a total reversement of our rational instinct could spring from nothing but a fundamental error. And it arose from our use of the abstract universal. That can not be real, and in consequence our thoughts were all built on un-

reality and ended in falsehood. But in the concrete universal, which has guided our steps, and which has appeared as the identity of analysis and synthesis, we have returned to truth and made our peace with reality.

§ 26. If for metaphysics what is individual is real and what is real individual, for logic too the rational is individual and individuality is truth. And this is no paradox. Our practical criterion [32] in every enquiry is the gaining all the facts and the getting them consistent. But this simple test unconsciously affirms that the individual is true and the truth individual. For a fragment of the whole broken off abruptly, or a whole that internally was at issue with itself, would alike fall short of individuality. Unawares then we strive to realize a completion, single and self-contained, where difference and identity are two aspects of one process in a self-same substance, and where construction is self-diremption and analysis self-synthesis. This idea of system is the goal of our thoughts, and to sight of this perfection we have been conducted.

§ 27. But we have not reached nor entered. Our analysis and synthesis have fatal defects, and their unity is poor and but superficial. Our analysis has to begin with a *datum,* and to divide its singleness into single components. But in the first place this origin is *not* single. For the *datum,* with which it begins, is limited, and is therefore defined by external relations.[33] These alien connections go to make it what it is, and it hence involves them within its own being. But, if so, its unity comes to an end. In its attempt at self-development it depends on the external; and therefore, even if its analysis is successful,[34] it has not analyzed *itself.* And in the second place the result of its analysis remains defective. It fails not only to analyze *itself,* but it also fails to carry out the analysis. For the components it produces are themselves unstable. Characterized as they are by their external relations and so impregnated with a foreign principle, their own unity falls apart internally into relations of *other* included units; and hence we never reach anything which we could rightly call single. Want of individuality in the *datum* that we began with, absence of self-movement and impossibility of self-development, this is the first defect. Want of individuality in the result attained, and endless dissipation into

foreign relations, this is the second defect of our analysis. It is ruined throughout by externality. The elements are inwardly alien to themselves, and from without they each are alien to the other and to their common origin. The analysis in the end is hence *not* synthesis, if that means self-relation.

§ 28. And our synthesis is no less defective.[35] We start with one element and go on to another, and find them both as constituents in a whole. But we can not say that we advance from our *datum* by the analysis of that. The opposite is the case, for our fresh constituent is dragged up and chained on from the outside. To the original element this stranger does not seem a part of itself, but a foreign arrival and importation. The synthesis is thus not self-determination. And this same fault has another side. For the whole, which you have reached, is no system of differences; it is not an individual. The differences are an aggregate, found conjoined together, and no self-analysis of a single unity. The elements certainly are united by a central point, and are thus interrelated; but their relations remain external and forced. Instead of moving freely from one to the rest, you are compelled to pass through a machinery of steps, which seem to have no vital connection with the elements you bring together. Thus the union is in the end no inward bond, but a foreign coupling; and you can not pass from the centre to the system of differences. It is no living point that withdraws into itself the life of its members, and flows forth into a body which it feels as its own. It is the axle of a wheel where spokes are driven in, and where the number of holes and spokes is indifferent.

This first fault of our synthesis implies a second and counterpart. For the whole, which we make, is never completed. It is determined from outside; and its unity is compelled to assimilate in relations to foreign bodies the seed of dissolution. These bodies fall outside that whole whose analysis we from time to time have procured by our synthesis. The synthesis turns out therefore *not* to be the analysis of the whole which we assigned to it, since that whole does not include the foreign matter, which intrudes in the result. And the perpetual effort to go on and to find the completion of our synthesis, and to realize the unity which we demand in our construction, proves a self-delusion. It leads to that chase

of the spurious infinite, where fruition, ever instant, is baulked perpetually. Our synthesis is therefore no self-analysis.

§ 29. We have seen the defects in both sides of our operation, and we naturally ask, Is there any remedy? Or, since the sin lies so deep that to remedy the process would be to change its nature, we may ask, What is it that we really do want? What was it that guided our half-conscious thoughts, and forced us to see failure where we desired success? To perceive imperfection is to judge by the perfect, and we wish to become aware of this idea which has served us as a canon and touchstone of reason. If we realized our ideal, what then should we get?

We should get a way of thinking in which the whole of reality was a system of its differences immanent in each difference. In this whole the analysis of any one element would, by nothing but the self-development of that element, produce the totality. The internal unfolding of any one portion would be the blossoming of that other side of its being, without which itself is not consummate. The inward growth of the member would be its natural synthesis with the complement of its essence. And synthesis again would be the movement of the whole within its own body. It would not force its parts into violent conjunctions, but, itself in each, by the loss of self-constraint would embrace its own fulfilment. And the fresh product so gained would renew this process, where self-fission turns to coition with an opposite and the merging of both in a higher organism. Nor would the process cease till, the whole being embraced, it had nought left against it but its conscious system. Then, the elements knowing themselves in the whole and so self-conscious in one another, and the whole so finding in its recognized self-development the unmixed enjoyment of its completed nature, nothing alien or foreign would trouble the harmony. It would all have vanished in that perfected activity which is the rest of the absolute.[36]

§ 30. This crown of our wishes may never be grasped. We may find that in practice it is not attainable, and is impossible for us to realize in detail. I will not say this is not so. Nay, I will not deny that this ideal may itself be a thing

beyond the compass of intellect, an attempt to think something to which thought is not equal, and which logic in part refuses to justify. I will not pass this sentence, nor will I gainsay it. But one thing I will say. The idea may be a dream, or even a mistake, but it is not a mere delusion. For it does not wholly deceive us. It does set before us that which, if it were actual, would satisfy us as thinking beings. It does represent that which, because it is absent, serves to show imperfection in all other achievements, takes away our rest in all lesser productions, and stirs our reason to a longing disquiet. There has come in to us here, shut up within these poor logical confines, and pondering on the union of two abstract functions, a vision of absolute consummation. In this identity of analysis and synthesis we recognize an appearance of our soul's ideal, which in other shapes and in other spheres has perplexed and gladdened us; but which, however it appear, in Metaphysics or Ethics or Religion or Æsthetic, is at bottom the notion of a perfected individuality.

§ 31. We may seem to have wandered away from our subject, but in reality, I think, we have come straight upon it. We desired to understand that remaining function,[37] which fell outside our analysis and synthesis, and we began by seeing how far these principles stopped short of and fell outside completion. Their defect was, in a word, the lack of self-development. Is it an idle fancy, if we see in the element which we desired to understand, and which passed without help from idea to fact, a trace of self-developing perfection? Or is it actually true that in our every-day arguments we must use an incomplete form of this principle?

We must, I think, in the first place admit this, that the act of thought by which we assume that, given one possibility, that one is real, can not be reduced to analysis or synthesis. And this act exists as a normal function. It is a law that, when we have a subject A, and with this a possible predicate *b*, and when (either because other predicates are absent, or because they have been suggested and excluded) this predicate *b* is left alone—that then the subject appropriates this predicate, and openly attributes it to itself as a possession. We may not recognize this law, we might even like to repudiate its claim, but we can not help obeying it. Where a sug-

gestion has been made,[38] if that suggestion is not rejected by the fact which we start with, or again by some other suggested quality, if in short we are left, not with discrepant possibles, but with one uncombated may-be—that suggestion must always be taken as fact. This is a process of thought, and it does not seem to fall under any previous process, but on the contrary to lie at the root of all our reasoning. On its negative side you may give it the form of "I must because I can not otherwise," and you may reduce every function of inference to this form. But on its positive side, and that is the truest, you may state it as "I must *so* because I will *somehow*." The striving for perfection, the desire of the mind for an infinite totality, is indeed the impulse which moves our intellect to appropriate everything from which it is not forced off.

§ 32. And, if I may guess, it was this principle which, falling from the sky, appeared disguised as Primitive Credulity (Book II. II. Chap. I. § 23). Among the many services which Professor Bain has done to our philosophy, we have to thank him for this, that he is incapable of suppressing what looks like a fact.[39] Here in the middle of the rest of his theory, without any reasoned connection with his principles, he points out this seeming irrational readiness to take ideas as facts, so long at least as this process is possible. And with this, if indeed it is not the same impulse, goes "the tendency of an idea to become the reality" (*Senses,* p. 341). These primitive weaknesses, according to our author, should be counteracted by experience and reason, and are a thing which perhaps we may say should not be, and ought not to exist. From this conclusion I dissent,* but I gratefully acknowledge the frank acceptance of the mental tendency. For I seem to find in these early superstitions a normal activity of the developed soul, the increase of which does but add to its progress. This double effort of the mind to enlarge by all means its domain,

* I must dissent again from the formula of Credulity, as given by Professor Bain, and which I have italicized. "We begin by believing everything; *whatever is, is true.*" This at all events we can not believe, unless we are idealists of an extreme type. I must suppose that Professor Bain *means* "Whatever appears, is *real,*" or "Whatever seems, is *true.*"

to widen in every way both the world of knowledge and the realm of practice,[40] shows us merely two sides of that single impulse to self-realization, which most of us are agreed to find so mystical. But, mystical or intelligible, we must bow to its sway, for escape is impossible.

§ 33. We shall hereafter discuss the validity of this with other forms of reasoning, and we may here recapitulate our present results.[41] Inference is an experiment, an ideal experiment which gains fresh truth. It employs divers modes of synthesis and analysis; and, underlying all and in one case apparent, is that aim of the intellect after perfect fulness which leads it to appropriate all suggested ideas which are not torn away. And reasoning depends on the identity of indiscernibles; for the middle operation must turn on a central point of sameness, and again the *datum*, with which we begin, must survive through the process. It must go into the experiment, and must appropriate the result which that experiment obtains. We have seen all this, and there is something else which now becomes visible. The identity, which we find in the middle operation, and the self-preservation of the basis we start with, have been set side by side. But in a sense they really are one and the same; and it will repay us to see this. It shows that at bottom, and in a struggling way, reasoning is really a self-development. Throughout the process one subject is developed, and again to some extent it developes itself.

§ 34. I will begin with the first of these assertions, but will not weary the reader with a repetition of detail.[42] For the presumption is now so strong in favour of its truth, that we may content ourselves with the removal of obstacles. All depends on our looking in a proper way at the premises we begin with. If for instance we have certain spaces and combine them, or two subjects and compare them, then in the middle operation, it may be said, the unity is imported from the outside. And so it is, if you take the spaces or the subjects as they wrongly appear in complete independence. But in that case you would never by any machinery force them together. The true starting-point is the total space[43] as qualified by these points in relation, the common reality

which appears in both subjects, the one ideal integer in which any given numbers exist as fractions, the underlying whole which presents itself as complex, and by abstraction is shown with a simpler predicate. This *implicit* subject is what supports the change brought in by our process. And it also serves as a centre of activity in the process itself.

With spaces and numbers this second truth is clear. But in other cases, such as comparison,[44] we may still verify the same rule. We begin with A and B, and we compare them to find the relation between them. But the centre of this synthesis must be a felt basis of quality common to both, and this common basis was implicit in our starting-point. You may indeed determine to compare two terms before you know the special point in which they are comparable; but you can not perform the actual comparison, until the terms have been unconsciously apprehended under one aspect. Thus reality appears, not simply as two terms, but as possessing an attribute or group of attributes, which is given with two separate sets of qualities. And in the result this basis through its own activity becomes explicit. We may say here as everywhere, that the real subject, implicit at the start, and active in the middle, shows itself at the end by a development of some latent relation or quality which it claims as an attribute.

§ 35. And thus, in a certain sense, the movement of the subject has been self-development. We have seen by how much it falls short of true freedom. We have seen how the capricious changes which we effect,[45] and the external constructions which we introduce, stamp the character of our reasoning with an arbitrary print, and raise painful suspicions of its invalidity. But there yet remains something, which we must examine later. It is assumed that, whatever in our reasoning may be arbitrary, yet at least the conclusion follows from the premises naturally and necessarily, without altering or straining or even addition. If *we* can be shown of our own free choice to have forged one link in the chain of inference, then the connexion snaps and the ends fall apart. The assumption will trouble us enough in the discussion which ends this work. But, if there is any truth in it, it points to our belief that the conclusion must naturally grow from the premises, and can not in any way be dragged or forced out of

them. Our apparatus of proof has been compared to a scaffolding, which is removed when the edifice of reason has been built; yet, if *we* have but placed the parts in conjunction, there is nothing which will hold when the scaffolding is gone. If our process is not to end in a ruin, the apparatus we have used must be simply a prop, supported on which the argument has grown up, till strong enough at last to support its own fruit and to stand by itself. Or if this, as I fear, is too high a comparison, we may say that our constructions must be plasters or threads or splints or bandages, which hold together for a while our broken perceptions, till we see them unite and come together. Every inference we could make would prove unstable, unless, at least to this poor extent, it were self-development.

ADDITIONAL NOTES

[1] "Axiom of Identity." See on Bk. III. I. III. § 2. And, for "that other principle," see on Bk. III. I. II. § 25.

[2] "Are they unconnected . . . inference." In this alternative "alien" is objectionable. It should perhaps be "disparate." And, after "beyond the," I should prefer to read "mere fact that each is an inference."

[3] "Within a whole." Before "whole" insert "visible"; and (two lines below) for "as" read "*as*."

[4] "We do not go beyond" i.e. in our mere result. And (lower down), in "the whole is not . . . made," insert, after "given," the words "as a *datum*," and, for "is made," read "itself depends on the inference." The text, as it stands, is really erroneous. See the foregoing Chapter, Note 15.

[5] "External relations." "External" means here "not falling within our *datum*." The relations can not of course be "external" otherwise.

[6] "The final unity." Add "which from the first, was, in a sense, there."

[7] "We employ a function." The "function" everywhere rests on and implies an *assumption*. See T. E. I.

[8] For the formulas used in § 7 see once more T. E. I. In the second of those given $\beta\text{-}\gamma\text{-}\delta$ seems written by a mere mistake, for $\alpha\text{-}\beta\text{-}\gamma$

[9] "The first confused whole, reconstructs that whole as . . . connections." After "confused whole" add "as such"; and, for "as," read "as and in."

[10] "The intellectual product . . . ideas." It may serve to make

these words perhaps clearer and more correct, if, after "connection," we read them thus, "whose actual truth covers no more than a fraction of what is contained in our *datum*. It is not till we have gained truths more special—truths at the same time less sensuously particular and general—that our intellectual results spread over the whole field, and can serve as principles to unite and comprehend the mass of detail. In becoming more analytical, and so more abstract, we gradually reach a wider realm of connected ideas."

[11] "Analytical Psychology." Cf. Bk. II. II. I. § 6.

[12] "Let us imagine &c." On the priority of Redintegration to Judgment (proper) cf. *Mind*, O. S., No. 47.

[13] "Apart from a native tendency." This is ambiguous. It should be something like "apart from the presence of instinctive reaction or apperceptive interest."

[14] On Judgment being always Selective, see the Index, s. v. *Judgment*.

[15] On Reality as the Subject being always qualified, and never anything like mere Being, see the Index, *s. v. Subject*. And, on the case where the *whole* Reality is the subject, see *Essays*, p. 41, note, and Index.

[16] The point here is that, without some stability in the content of what comes in Feeling and Sensation, no orderly world would be possible. For order could not be simply super-induced by or from any mere abstract principle or function.

[17] "Assume, as we must &c." Cf. Bk. III. I. III. § 17. And, in the next sentence, before "no intelligible ground," insert "for itself."

[18] "The *sine qua non*." After these words read "but we have got, *so far*, no more."

[19] "You can not cross &c." See, once more, *Mind*, O. S., No. 47.

[20] "Every relation . . . subsist." Cf. Bk. II. I. II. § 10. This fundamental doctrine I have done my best to preach, but, I fear, still largely in vain. It does not surprise me, even now, to find it assumed, in criticism of myself, that relations are ultimately real, and that the only question, even with myself, is as to their character as so real. Cf. T. E. IX.

[21] *Judgment and Inference*. Cf. Bk. III. I. III. §§ 12 foll., and T. E. I and II. The answer to the question, whether Judgment comes before Inference or Inference before Judgment, is that both emerge together. Each appears first not by itself but as one aspect of a single process. As, however, each may be taken at different stages, and so in various senses, either can thus be shown plausibly as prior in time to the other.

But Judgment is mediated from the first and is mediated essentially. Judgment issues from a felt whole, and this felt whole is never left behind in the sense of remaining outside. It still is there in one with that Reality of and within which the selected synthesis of the judgment is affirmed. Hence from the very beginning the form of Judgment is R (x) —a, or S (x) — P. And in this x is

essentially implied that "R is such that S is P." But, where you have "such that," you have obviously a mediation and an inference.

On the other hand this irremovable aspect is easily ignored. It is by a natural abstraction that judgment is taken often as *simple* or *mere*. And certainly to a greater or less extent we may lack not only the wish but the power, in the case of many judgments, to show the special inference which is implied. In judging we may ignore or may be unaware of the base of our judgment, and of that system and ground on which really it rests. But our judgment is, none the less, the expression of a system, however latent and however imperfect that system may be.

"Your doctrine," it may, however, be replied, "takes no account of an objection, an objection noticed in this volume (Bk. III. I. III. § 17) and really fatal. "We admit," it may thus be urged, "that judgment never is a mere accident which supervenes. It is in every case (we agree) a necessary result. It comes from a whole of conditions, which, if you please, you may even call a system; and in this sense a judgment is always mediated. But, on the other hand, the necessity involved here, may be, in a word, psychological, as is evident when we consider a selection due to relative force (ibid.). And you can not pass direct from 'conditioned psychologically' to 'logically conditioned.' The necessity in the former case is external to the logical judgment, when once that judgment has been produced. But true logical necessity belongs to that, and solely to that, which is contained *now* within the judgment itself, no matter how the event of this judgment has happened. It is mediation in this latter sense which you have to show, and which you can not show, as present always where judgment exists."

The above objection is serious, I agree; but, when considered more fully, it tends, I think, to confirm our conclusion. And I will first notice the error involved in any attempt to separate wholly and to divide the psychical from the logical process. For the psychical process (we have seen) is implied always and everywhere, though logic for its own purpose must abstract from this necessary side of things (T. E. I). And this same process (we have seen again), when controlled in a certain sense, itself becomes, so far, that which we mean by thought (see on Bk. III. I. III, § 23). And further this very control is even itself an effective part of the psychical sequence, since it is something which happens and which makes other things happen in the mind. Hence an absolute division between what we rightly distinguish, as logical and as psychological, must clearly be set down as a dangerous error.

But, so much being premised, the above distinction must be admitted and emphasized. It does not, however, consist in the separation of diverse matters. It is based on that difference of interest and of object with which the same matter is treated, on the one side by psychology and on the other side by logic. The psychologist asks how certain events, with such and such characters, occur in the mind.

And for this purpose he ignores, and he must ignore, all that otherwise is implied in these characters. He has not to deal, for instance, with the question as to whether and how far judgment and inference are *true*. But the question of truth, the problem as to how, and how far, the ideas used in judgment and inference hold good of Reality, is essential to logic. And hence, aiming at its restricted end, logic, if it is to exist, must abstract. It must ignore, in general and in detail, that aspect of *event* which is really inseparable from all judgment and from every inference (see T. E. I. And cf. *Mind*, N. S., No. 33).

Are we then to insist that psychological conditions are excluded from logic, and remain in every sense outside? To this enquiry our answer must, after all, be No. Or this exclusion, we may again reply, holds good rigidly, but only so far as the above conditions seek to enter *as such*. And I will now point out how within logic itself they still can appear, though never, whether generally or in detail, in their own special character. We may return here to the instance where the relative force, say of certain sensations, was the cause which brought into existence a certain judgment.

This force, I repeat, remains, as force, external to the judgment. It can not in its own character pass into the content of that judgment and there claim recognition. But every judgment (we have convinced ourselves) must, on the other hand, contain and depend on an internal x. It is never mere R, but always R (x), that in the end we qualify as S — P. Within this x falls every aspect that belongs to our Reality, and thus, though not given in its special character, every aspect is itself included in our judgment. Hence every psychical condition, such as, for example, the force of a sensation, can, in a sense, appear within that judgment which also follows as its mere external result—a result which claims for itself at the same time complete independence.

This transformed appearance of the non-logical within logic shows itself (we may note further) in more than a mere general form. Not only does every judgment presuppose and contain an unspecified **x**, which, except for convenience, it has no right to ignore. We have also judgments where this x is specially recognized within that subject which we mean to affirm. In the "This," of what is called Designation, the judgment is qualified explicitly by what we take as an x which is special and particular. A prevailing force, say of sensations, can find here an admitted expression within the judgment, and can itself, so far, become logical. But on the other hand, in its own psychological character and taken as such, this force, whether in general or as particular, remains excluded from logic. (On *Designation* see further *Essays*, the Index.)

We have now, I think, disposed of the objection which seemed to threaten our result. And our conclusion holds that, as there is no inference without judgment, so, on the other side, there is no possible judgment without inference. In principle the two are no

more than inseparable aspects of one process. Apart from an abstraction, at times permissible but in the end illegitimate, there can be no *mere* inference or *mere* judgment. And the question of priority can be admitted only when we limit it to those various stages which appear as the development of one two-sided activity.

[22] "Our primitive judgment . . . in two main points." But, as is pointed out in the following sections, the absence (i) of an explicit, or even a producible ground, and (ii) the absence of an object, in the strict sense, from which we start—only show that inference, if and so far as taken at a certain stage of development, is not yet there.

[23] "A physiological sensation." Cf. Bk. III. I. VII. §4. Before these words insert "even." I do not know if the terms used here are accurate, but the meaning is that, if the "incoming shock" were a *mere* shock, it would not be *in any sense* a sensation, whatever else it might be. The "inherited superstitions," spoken of lower down, refer to what still flourished in England, more or less, even in 1883. And the opening words of §19 should certainly have been, "I am, I hope, aware."

It may perhaps assist the reader, if I, somewhat more briefly, repeat the foregoing. It is objected that, though there are in every judgment special psychological conditions, which do in fact mediate, and which so make every judgment to be in fact what it is—yet these conditions do not appear, at least always, within the judgment itself. They therefore may, in whole or in part, remain external to the *logical* judgment. And hence it follows that not all judgments are mediated *logically*.

In answer to this objection I admit the fact that, as above stated, these special conditions do not, in their detail, appear in the judgment. And I agree that the judgment is so far defective. To make the judgment perfect logically and complete, *all* the conditions, including those which are psychological, must appear in the judgment itself. And, failing this complete mediation, the judgment is not what it ought to be. It does not, that is, realize the character to which, as a logical judgment, it is bound to lay claim.

On the other side logic itself marks this incompleteness and this defect by insisting, everywhere in judgment, on the necessary insertion of an **x**. And, in the field of this internal **x**, it provides space for the inclusion of all and of every condition required by the judgment. Hence the judgment contains within itself whatever complement is needed for its own perfect mediation. And, though actually this complement is included not in its particular but only in its general character, none the less its inclusion is there. Any objection which insists that the required mediation remains but external can not, therefore, stand.

Further, wherever we fall back on Designation, we recognize, and set down as present, in the judgment itself, something which is there although it can not be specified in detail.

The conclusion then holds that in principle all judgments are fully mediated. But, so far as the special mediation required is not made explicit, every judgment fails *so far* to be complete, and is imperfect logically. And it is in this sense only that a judgment can be characterized by that which can also be termed "external." In every judgment all its logical conditions are included in principle, but there are, on the other hand, particulars, which, as particulars, remain outside of the actual judgment.

[24] "Comparison" should certainly have been omitted, and its mention here amounts to a mistake. For Comparison see the Index. Cf. Bk. III. I. VII. § 2.

[25] On the conclusion advocated in § 20 cf. ibid., §§ 3 and 4.

[26] On the question as to how far inference in general is arbitrary, see Bk. III. I. II, Note 7, and cf. the Index, s. v. *Inference.*

[27] "Combines in its result . . . both." If this meant that the effective detail of the "premisses" survives, *as detail,* in the *logical* result, it would be open to objection. But cf. § 23, and see Note 21. Not even in the result taken as *psychological* can the entire detail survive. See Index, s. v. *Reproduction.*

[28] "Interesting and important questions." Questions (I would add) as important now as ever, and needing perhaps still as much to be asked. The reader may observe, specially in this section, the influence of Hegel.

[29] "In what shape—made use of." See Note 27. The reader may notice that the account of Reproduction given here omits to notice the formation of "Dispositions." This necessary feature of the process may, however, be taken, I think, as here irrelevant to the main argument.

[30] On the selective analysis, present in all judgment and inference, see the Index, s. v. *Judgment.*

[31] "That false relation of extension to intent." But see on Bk. I. VI. § 6.

[32] "Our practical criterion." For "practical," as applied to theory, see Index, s. v. *Practical.* And for "criterion" see s. v. *Criterion.*

[33] "External relations," not of course *merely* external but external enough to vitiate the result. Cf. Notes 21 and 34. And see Index, s. v. *Relation.*

[34] *Analysis.* If the totality implied in the *datum* were included there at the beginning, and, if this totality could, in and by the analysis, itself develope itself independently and fully—the result would be satisfactory. But, as this can not be the case wholly, the result is defective. See T. E. I and IX. And, for Data and Premises, see Index, s. v. *Premise.*

[35] *Synthesis.* Our *datum,* once more here, is not the entire whole which is implied in our process. And, in any case, that whole is not developed except in the imperfect form of an aggregate, where, though the ends of the bricks (so to speak) are united by identity, all the rest of them remains in principle external and but stuck on

by a foreign x. Hence, inside the whole, there is no binding connection throughout, nor again on the outside is there any real completion. For there is no one single thing which, of and by itself, has developed in the process its own proper self. See T. E. I. The mere conjunction (we should note) of identity and difference is not a solution of the problem as to how these diversities are able to be at one. See *Essays*, pp. 240, 264, note.

[36] On the Dialectical Method see the Index, and T. E. I. In the words "that perfected activity . . . absolute," the reader will note the difference between *perfected* and *perfect*. He may further observe that, even in 1883, I seem to have been clear that "activity" is not ultimate, and can not be taken to be real, as such, in the Absolute. See *Appearance*, the Index.

[37] On the supposed "remaining function" and "law," see on Bk. III. I. II. § 26, and IV. § 6. We have here an error resting on the general mistake made in this volume as to "mere" or "floating" ideas (see on Bk. I. I. §§ 4 and 10. As to the inference discussed in § 31, where there really is one, it consists in Elimination. And it will fall under the general head of Analysis and Synthesis, since it explicates both distinctions and connections in the subject. The statement "can not be reduced" is therefore, so far, wrong. It would become right only if we passed to the real from that which is sundered from it as *merely* possible. See again the Note on Bk. III. I. II. § 26.

On the other hand the general "impulse to self-realization" is really fundamental. And this "striving for perfection" shows itself everywhere in the aiming at "an infinite totality." And it appears here specially in the desire for and postulation of Reality as an ideal system, where all distinctions are related and connected at once positively and negatively.

[38] In "where a suggestion has been made" it would be better, perhaps, to say "has been accepted as possible," and to insert "special" before "fact." For "suggestion" see on Bk. III. I. III. § 17, and V. § 14.

[39] As my attitude towards the late Dr. Bain had so often to be that of criticism, I should like to add here that it is now only too easy to underrate or to ignore his merits and his work in psychology. He was a man, I think, who tried to see the actual facts for himself, and to recognize at any price anything that struck him as a fact. And, wherever we have found that, the reader may agree with me that our gratitude is due.

[40] A critic seems literally to have taken me to be recommending here a practical trial of every form of vice. I should have thought that the distinction between the "infinite totality" and the spurious infinite might have stood in the way of so gross a misunderstanding. See *Ethical Studies* (1876), pp. 68 foll.

[41] The importance of this "recapitulation" is such that clearly it should have come at the beginning, as the thesis to be developed in

the account given of Inference. I would now refer the reader to a summary treatment given in T. E. I. And on "experiment," operation," "identity," and "self-development" see the Index, and cf. the Notes on Bk. III. I. Chap. III.

[42] On the detail of § 34 see *T. E.*, I, and cf. the preceding Notes on Book III, I. II. Further on *data* and premises, see the Index, s. v. *Premise*. And, for the apparent and implicit subject, see T. E. II, and the Index, s. v. *Subject*.

[43] "The total space," i.e. both as general and as in this case individual.

[44] On Comparison see the Note on Bk. III. I. II. § 16. Here for "special point" we might substitute "special or more special point." You can hardly compare (we might add) unless it is to compare *further*.

[45] On "arbitrariness" in Inference see Notes 7 and 10 on Bk. III. I. II. And before "we effect" and "we introduce" insert the words "seem to." For a construction, so far as really "external," could not even make part of a genuine inference.

CHAPTER VII

THE BEGINNINGS OF INFERENCE[1]

§ 1. We have seen in what explicit[2] inference consists. It is a conscious operation, aware that the activity which it exerts is ideal, and ending in a judgment. This judgment again is accompanied by the reflection, that what went in at one end of the process, has come out at the other end. This is *explicit* inference, separated, we shall agree, by an enormous interval from the beginning of soul-life.

It is not the purpose of our volume to trace the growth which in the end has bridged this gulf. But we can not fully understand the highest form, unless we have at least given a glance at the lowest. And we have been compelled already in our account of judgment, to say something on the nature of the primitive mind (Book I. Chap. I. § 18), and to return to that theme, when we tried to correct the vagaries of those whom Association has victimized (Book II. II. Chap. I.). Once again, and in the present Book, the entanglement of inference with judgment brought us face to face with the beginnings of reason. And, as we are nearing the end of our labours, it may be well to sum up, and even to repeat, what we have to say on the earliest intelligence.

§ 2. That intelligence is scarcely to be recognized; for it lacks, as we saw, the chief marks of intellect. It can not judge, for it has no ideas.[3] It can not distinguish its images from fact, and so can not unite them consciously to the world of reality. And thus it can not reason; for its inference, if it had one, would end in a fact, and not in a truth. It would not be aware of an ideal activity, but would blindly accept the transformation of an object. And even to this point it has not progressed. As perceived by the dawning reason, the object itself is unable to change; since if the change is to be known,[4] the original must be retained, and its sameness held fast. But such a process is too hard for nascent intelligence. And

so we must not say that it observes the fluctuation of the object, for it does not as yet possess any object.

I do not mean that in this blurred and confused totality there exist no differences, and no dim feelings of self as against a not-self;[5] for these characters, I believe, are there from the first and also are felt. And, if it were not so, I do not see how we could ever have advanced to the place where we stand. But these differences, though felt, are not for consciousness. They are aspects of one feeling, they are not two feelings, in the sense of two elements which present themselves apart. They do not appear as two realities, for we are still a long way from perceiving realities. Hence there is change in feeling, not alteration in things. And, having no things, to repeat it once more, we have got no ideas. And so we have got no ideal processes. Comparison and distinction, that bring with them a consciousness of agreement and difference, are activities we have not yet learnt to recognize. We can not even say of two elements that they are like although they still are two. There is no memory[6] or expectation, since the past and the future are nought but felt colour and quality of the present. And there is no world of imagination nor play of fancy, since these presuppose a knowledge that ideas can exist and be unreal; while in the primitive mind no suggestion is retained which does not integrate itself with felt reality. Dream and waking again bring no known diversity; for dreams are not recalled, and at a ruder stage the very difference seems to be absent. We are ever awake, or live out our lives in a prenatal dream.

We may say that at first the whole ideal side of our minds is hidden from consciousness.[7] So far as we know it, it is the mere dumb feeling of elation and collapse, which marks the continuous flow of sensation.

§ 3. So blind and unintelligent is the childhood of our intellect, and we might think that no germ of intellect was there. We might fancy that we saw the mere passive recipient of external impressions, the sport of sense and of mechanical suggestion. We might flatter ourselves that at last we were quit of activities and functions, and had bored too low for a fictitious reason any longer to trouble us. In this floating tide of presentation,[8] where nothing is false and nothing is true,

and where self-consciousness seems only the felt practical relation with its manifestation of pleasure and pain—we might think that at last we had come upon a soul, which was free from even the rudiment of those powers that have been ascribed to the developed intelligence.

But, if we cherished this thought, we should fall into error. For in the very lowest stage of psychical existence we still can point to a central activity, and verify there a rudiment of inference. And a soul, so far as we are able to see, would be no soul at all if it had not this centre. It would be an abstraction which can flourish in the heads, and can take its rest on the shelves of theorists, but which never was actual and never could have been actual.

§ 4. Physiology gives no countenance to this false idea.[9] It would be presumptuous for a layman to rush in, where special education gives the right to speak; but I will confine myself to a guarded statement. Physiology does not reject the belief that the beginning of feeling implies the presence of two bodily factors, a stimulus coming inward from the periphery, and then a reaction on this from within.* But, if so, we may be right if we say that the very first glimpse of sensation is a result of two activities, is a conclusion, so to speak, from two material premises, of which the central response makes one. And, if we considered the same question by the light of introspection, we might find reason to think that the lowest feeling, which we are able to observe, does exhibit two aspects, one of which may be conveniently called *self*-feeling. I will not venture to assert here what certainly demands a lengthy discussion, and I admit that this double aspect in sensation is a very obscure and difficult point. But I thought that in passing I might call attention to the fact, that the mere passivity of our first sensations can be controverted alike from the ground of psychology and the ground of physiology.

§ 5. It is better to move towards plainer issues. Let us suppose, if you will, for the sake of argument, that the first sensation is a passive impression. But no sober writer will

* I have purposely used the vaguest language, as I do not feel at liberty to assume that psychical life does not precede the development of nerves.

contend that this by itself is experience. The origin of experience, we shall probably be agreed, is to be found in what is called reflex action. But unfortunately here we are still in the region of doubt and controversy. When we desire to know how the physical reflex gets a psychical expression, our progress is barred. It seems not known, for instance, if the efferent side of the circuit is *ever* represented in consciousness, or, if it is represented, how it comes to be so. The so-called "muscular sense" appears to be as doubtful an article in physiology as it is in psychology, and in these pages we are compelled to avoid it wholly. And our only course is, I think, to content ourselves with an unfavourable view.[10] Let us say that experience begins with a reflex which comes to consciousness, and that, on the *psychical* side, this reflective circle starts with a simple passive sensation. Then follows a discharge which moves our limbs, and brings forth a change in the immediate environment. This alteration is represented by another sensation (however produced), which for consciousness simply ensues on the first. From this modest beginning we have to see how the activity of the centre begins to develope the rudiment of inference.

§ 6. Let a feeling A somehow cause a reflex action β, with an altered feeling C. This feeling C comes indirectly from the reflex, since it arises from the change, in my body and in the object, which that reflex produces. Suppose now that a modified A recurs, then by mere reproduction it is followed again by the action β; but let us suppose in addition that β fails in its former relation to the environment. Then C will not ensue. The sensation from the object, and the enjoyment of possessing it, will in this case be absent. But something else will be present. For part of C consisted in certain feelings, arising from changes in the muscles, the skin, and the organs of secretion. These changes are produced once more by the reflex; and therefore, although the object is not there, their feelings will come up. And this is important: for, part of C coming up, a redintegration will supply us with other parts. Hence, though the object is not present, though the full sensation and pleasure of possession remains untasted, we yet are visited by fainter suggestions out of harmony with presentation, and that do not satisfy. This gives us a collision, a

contrast between the new presentation and the feelings excited by the inappropriate reflex action. And in this contrast there lies an undeveloped inference.[11]

We have not yet got anticipation baffled and disappointed hope; for the mind has not yet reached the stage of expectation. It does not know that its suggestions are mere ideas. But, for all that, we have already both sides of a process which must lead in the end to this great distinction. We have first a modification of sensation by ideal suggestion. We have next a failure in correspondence and a collision of these elements. And the pain of accident or unsatisfied desire will force the soul to consider this contrast, and to make explicit the difference which it must feel. Both in theory and in history, it is mishap and defect on the practical side which gives birth to speculation.[12]

§ 7. For the early soul-life (it is a truth we can not repeat too often) is immersed in practice.[13] It is wholly directed to the satisfaction of its appetite, first for food and then for the continuance of its species. The selective attention, with which it meets the series of sensations, is guided by these heads, and is governed throughout by the dominant ideas of feasting, war, love, and social attachment.[14] For the sake of these ideas it neglects the main part of the offered suggestions. And the intellect is so unfree, that the very first start that is given to redintegration may consist, as we saw, in a reflex action which seems merely physiological. This rule of the "passions," and bondage of the "reason," comes down very late in the scale of evolution, and it is hard to say where intellectual freedom begins first to show itself. The curiosity shown by the lower animals, and their apparent love for beautiful objects, are phenomena which I could not venture to interpret. It seems probable that pure theoretical curiosity appeared before man had been developed;[15] though it no doubt may be argued that the impulse still remained at bottom practical. But, whatever we may think on this interesting point, what is certain is this, that at the beginning of progress the intellect is subordinate, and that afterwards it becomes at least partially free. And the conclusion I would add is, that the intellect would never have appeared on the scene, if it had not been present and active from the first. We may start with a reflex

that follows unfelt upon a sensation; and the feeling that ensues may so far be taken as a passive result. But, together with this feeling, are recalled by a synthesis other elements which co-existed with it. And this recall has no immediate practical link.[16] On its psychical side it is assuredly a rudiment of intellect and reasoning.

From the first it is a function of undeveloped inference which enlarges the given by ideal suggestions. The selection of these suggestions begins with being practical. There is, so to speak, no attention but appetite. But gradually the interest becomes more remote. It is held to appetite by a longer chain of links. And it possesses at last, not a mere activity, but an end of its own. When this is accomplished the reason is emancipated; and the history of the intellect would recount the setting free of that ideal function which was present from the first.

§ 8. Such a history would be hindered by many difficulties,[17] and obstacles would arise upon every side. It would find insecure metaphysics, one-sided psychology, a physiology in great part unsettled, and a study of the ruder forms of the soul not long attempted. It was not our object to trace even the barest outline of development, but to call attention to one cardinal point. The beginning of intellect, the first rudiment of reason, is present at the outset of psychical life. In what is called "association" is involved the vital principle of the highest logic.[18] For we must repeat once more what we have insisted on so often. Universals are what operate in the very lowest minds. We may say the line of least resistance is too narrow for facts, and that in passing they are stripped and thinned down to generals; or that this line, like our forefathers' ghostly bridge, is no way for more than bodiless spirits. But, however we phrase it, the result remains that from the first what works is the universal. It is never the whole object, it is that in the object which corresponds to the inherited predisposition,[19] which excites the reflex. It is never the whole feeling, which by redintegration calls up those sensations which accompanied the past. It is always an element particular to neither, but common to both and unconsciously typical. The anticipated image is itself again an implicit universal; for otherwise how could it ever be identi-

fied with a reality not the same as itself? We need not here recall the detailed discussion which we entered on before. If there is any result we may be said to have established, it is this, that from the first similarity is not a principle which works. What operates is identity, and that identity is an universal.

§ 9. In the view which we take of the primitive mind we have to battle with two counterpart mistakes. On the one hand we see in the lowest life functions higher than those which some assign to the highest. The degradation of the soul to an impossible pitch of decentralization is one of the prejudices against which we protest. But, on the other side, we must take our stand against the undue exaltation of early intellect. With the most debased theory of the beginnings of the soul go the wildest beliefs in the high capacities of the lower animals. Now I do not for one moment profess to be able to fix the limit reached by non-human intelligence; but I think some views may safely be rejected. When animals, confessedly far inferior to man, are represented as inferring in a manner in which no man does reason, save when working at his most self-conscious level—then, I think, we may be sure that this idea is erroneous, and that the fact must here have been wrongly interpreted.[20] We may perhaps have no real knowledge, but still we have probability.

§ 10. We may illustrate this tendency to an overhigh estimate by the classical instance of disjunctive reasoning. The dog, who follows his master's traces, comes to a spot where the road divides. He approaches the first of his possibilities in a spirit of doubt; but, when that doubt is ejected by disbelief, his mind is made up. He runs confidently down the remaining alternative; for he has reasoned reflectively. He is certain of this that, if one has proved false, the other *must* be true. But the instance, I think, is largely fictitious. The facts are uncertain and the interpretation vicious.

With respect to the facts, I venture to assert that the *ordinary* dog does not first examine tentatively one road, and then confidently and undoubtingly go down the other. What he visibly does (in a case of ignorance) is to approach both outlets in much the same way; or if he hurries to the second, he does not, with that hurry, show any sign of confidence or

elation. And the true interpretation is, I think, very simple. When he comes to the division he does not say, "See here are two ways and I know one must be wrong, I have therefore two exclusive alternatives." He does not, I think, enter on these introductory reflections, but the road which is nearest suggests the idea of his absent master, and he acts on this suggestion. Then he fails, and, seeing the other road, repeats the same process, except so far as delay has increased his eagerness and hurry. There is nothing to show that he ever has before him more than one idea at a single time. One suggestion follows and drives out another, but different suggestions are not held together. And we should remember that the retention of an idea, which, by being denied, forms the basis for a further positive advance, is a very late acquisition of the mind. It is hard to believe that, where speech is undeveloped, this function can be present.

And, if I am told that from examination of the first road there are dogs who will at once go down the other without any examination, and that therefore they must use explicit disjunctive reasoning—I will not take back one word of the foregoing. Admitting the fact, I should consider the interpretation absurd. The fact to be explained is the appearance of the last road as the path of the master, and it is gratuitous to explain this by the retention of and reflection from the negation of the residue. It is, I presume, agreed that each road tends to suggest the master; but, if so, provided only that the failure of the other roads prevents them from coming before the attention, the whole fact is explained. They cease to be suggestions, because they are now made one with the feeling of failure. They are hence excluded as soon as they are called up, and the remaining suggestion *must* therefore seem fact immediate and simple. I have presumed that, in explaining the acts of the lower animals, we should not postulate *more* intelligence than is wanted in order to account for the phenomena.

§ 11. It would be interesting, if it were possible, to discuss in greater detail the intellectual phenomena of the primitive soul. But, apart from other reasons, we are forced to confine ourselves here to the general, and may sum up what we have to say in these words: *in the infancy of reason*

there is no necessity.[21] The nascent intelligence goes to its result, not because of the premises A and B, but because it can go forward in no other direction. And even that is incorrect. It advances, not because it can not do otherwise, but because it advances. The ideal change takes place before it and is effected by its act; but it has not reflected on the existence of that change, and still less on its ground. Thus it sees, not at all because it must see, but simply because it happens to see. And for this reason disjunctive inference is impossible.[22] There are no possibilities between which to choose, since every suggestion is taken as fact or is straightway excluded. There can properly be no choice where the mind is not conscious of any ideas. Thought follows the line of the least resistance; but it knows nothing of resistance and nothing of other lines, and it does not know that it is even thinking. The primitive mind has troubles of its own, but as yet it has learnt neither its strength nor its weakness.

And there remains an observation I may be allowed to make. It is *possible* that the upward growth of the mind may so have changed or coloured its simplest functions, that we can not any longer find in ourselves the psychical phenomena of the lower animals. This is possible, and with respect to certain special functions it is much more than possible. But, if we take it broadly,[23] I confess that I see no ground to accept it as probably true. In the disparaging estimate, if it is disparaging, I may seem to have formed of animal intelligence, I may say that I have done nothing but estimate myself. Without doubting my own title to rationality, I observe in myself at my less conscious moments those processes and those feelings which, with certain exceptions, seem to explain the acts of the lowest creatures. And these processes are united to my highest functions by one steady advance of one single principle, first unconscious, then reflective, but always reasonable.

§ 12. My excuse for these poor yet repeated remarks is on one side the great importance of the subject, and on the other side the cloud of prejudice which darkens it. It must be difficult in any case to study the minds of the lower animals; and it is more than difficult when we come to the task with false preconceptions. It will perhaps be no unfitting end to

this chapter, if we try to signalize the most mischievous of these.

I may mention, as a leading cause of error, confusion of ideas as to general psychology. An investigator will discuss such questions as, Have dogs got "self-consciousness," or Have they "the power of abstract reasoning," when the approximate meaning of these terms is not fixed. Now in ourselves we can observe a number of stages, beginning with the dimmest feeling of self, and ending with reflective introspection. It is idle then to argue about the dog's "self-consciousness," when we have not tried to settle, even within limits, what the word is to stand for. So again with the power of "abstract reasoning." If we begin our enquiry without asking in what way, and by what steps of development, such reasoning is divided from the inference which simply serves to qualify further a present perception—how can we expect to go right in the end? One very great obstacle to the study of animals is defective psychology propped by bad metaphysics.

This vitiates interpretation, but observation itself is largely vitiated. There is a tendency in the lovers of domestic animals towards credulity and exaggeration. As we approach the facts, we too often find that their stories dwindle, like the tales of ghosts. And the tendency, I think, is not hard to account for. The mere unlikeness of the other animals to ourselves suggests something unknown, and the unknown is mysterious. And, besides, there are powers possessed by these animals, which we do not possess and find hard to explain. This suggests the possibility of marvels without end. And another common source of mistake co-operates. The observers of animals too often forget to note the occasions where stupidity is shown. These they pass without remark and as a matter of course; and thus they escape the difficulty they would find in showing how such different grades of intelligence can exist in one being.* For, if you interpret the successes of a

* For some years, while noticing the habits of my dogs, I observed the views taken by others of their conduct, and was impressed by the general readiness to accept any kind of explanation, provided only it supposed a high degree of intellect. In speaking above of powers that we do not possess, I mainly allude to what (perhaps not very happily)

lower animal by direct analogy from the highest functions of the human intellect, you should apply the same principle to all his failures. The total consequence would be a strange compound.

§ 13. The two obstacles, which we have noted so far, are a crude basis of theory and then uncritical observation. We pass from these to the doctrinal prejudices which rise from the idea of evolution. These prejudices show themselves in the desire on one side to minimize the difference between man and beast, and on the other side in the wish to suppress their points of similarity. But, in each attempt, there surely is a want of understanding. If we believe that the highest has come from the lowest by the operation throughout of a single principle, it is surely a derogation from that principle, when we are fain to help it by shortening its course. If its triumph is to pass from one extreme to the other, then by moving the goal you must abridge the triumph. And again, since in any case the actual genealogy has not been recovered, I confess I do not see the object of hurrying the historical progress, and of straining oneself to reduce the chain by some links at one end or at the other. We must agree, I think, that in combating prejudice, the theory of descent has itself used prejudices.

But, on the other side, what are we to say of our would-be conservators of human dignity? How can those, who are not slaves to a childish mythology, persuade themselves that any real interest of their souls can be jeopardized by an ape-like ancestor? For consider, although you deny this parentage, yet the basis of your being is too plainly animal. Though more than a beast, yet, however you have come here, you assuredly are still a beast among beasts. But you will say, "This *more*, that divides me from the rest, is lost if my first beginning is beast-like." Most foolish rejoinder, for what do you fancy is your own private history? If the coming

has been called the "sense of direction." There seems no ground[24] to doubt that some animals are aware of distant objects, in a manner not explicable by smell, vision, or hearing. There is obviously no great antecedent improbability in the idea that different animals may have diverse senses. And, at the cost of a digression, I should like to suggest that this "sense of direction," if properly established, would be a ready explanation of most forms of second sight among human beings. These phenomena, if we suppose them real, would arise from the survival and abnormal reappearance of a sense in general aborted.

together of two miserable microscopical pieces of matter was *in any case* your origin, what worse is left behind to destroy or threaten your immortal aspirations? If you do not blush to acknowledge the spermatozoon, why scruple to own the paternity of the ape? It is a sensitiveness which seems irrational, and which history will mark as a ridiculous prejudice.

And it is the more ridiculous, since the question of the temporal union of each soul with its proper body was a topic for dispute long before Mr. Darwin fluttered the Church. It is hence not obvious to the mere stander-by how this interesting uncertainty about our ancestors can add much material to the former dispute, or how it can have closed that pathway of salvation which, I presume, the Church must at some time have found. And, until we have some explanation on this head, I think we must conclude to one of two things: if the present outcry is not ridiculous, the former calm was not very creditable.

But it is absurd, so long as in every man's history the transition has been made from the lowest to the highest, to think that by exaggerating the differences which exist between man and beast, you tend to disprove a transition of the race from one to the other.

§ 14. The prejudices, which up to this point we have reviewed, may fairly be classed as intellectual mistakes. But there remain at the bottom of the wish to disparage and belittle our inferiors the threatened hopes of a privileged class. What seems threatened is man's heritage of a life after death. For, if the beasts are his kin, then, since the beasts perish, he may perish with the beasts, and his claim to that after-land of pure torture and delight seems greatly shaken. But, on this ground once more, I confess that I see no just cause for alarm. And I would first recall to the orthodox Christian champion of human nature something he may have forgotten. The new dispensation knows no *natural* claim on the part of man to anything but unpleasantness. And hence, if we can not hope in our own nature, we can certainly have no reason to dread that nature's abasement.

And then from any point of view that is not quite orthodox, and that attempts to be even a little rational, what loss is threatened in the other world, if we admit our kinship with the lower animals? There are difficulties in the way of their

immortality. But are there none in our own case? Are there much more or less in one case than in the other? You will answer perhaps, "I can not draw any line within the animal kingdom." Will you draw me then a line in the life of a man, and mark one period in his strange development as the birthday on which he is given his immortality? When such questions as these are once discussed by daylight, the answer is certain. Our relationship to the beasts would not lessen any hope, save that which comes from superstition or prejudice.

§ 15. But, as we set ourselves free from our selfish hopes and brutalizing fears, we free ourselves too from the belief in our isolated origin and destiny. The same joy in life, the same helpless mortality, one common uncertainty as to something beyond draws us nearer to all the children of earth. The frank recognition of a common parentage leaves us still the rulers of our poor relations, but breaks down the barrier which encourages our cruelty, our disregard for their miseries, and contempt for their love. And, when this moral prejudice is gone, our intellectual prejudices will not long survive. We shall not study the lower animals with the view to make out a case or a claim, but for the pleasure of finding our own souls again in a different form; and for the sake, I may add, of understanding better our own development. If such a study would tend on the whole to inspire us with a warranted self-confidence, it would call up some feelings of self-reproach and pity and shame.

We must return from this digression. We have described the general nature of inference, as it appears in the special kinds of reasoning. We have shown how the principle remains the same throughout all stages of psychical evolution. And, while protesting against the confusion of these stages, we have used the occasion to point out some prejudices. I would end with the remark that, if we will but keep hold of and be in earnest with the idea of development, we shall lose all wish to pull down the higher or to exalt the lower. We shall ask throughout for identity of principle; and, above all things, we shall not try to get that by diminishing the wealth of varieties and stages of progress in which the single principle has found realization.

ADDITIONAL NOTES

[1] I may perhaps be permitted to call attention to the real importance of this Chapter. The reader will not, I trust, regard it, together with the criticism of Association (Bk. II. II. I.) as a mere deviation into psychology. Certainly psychology for its own sake has always attracted me. And, merely from this side, I should have been forced to reject the doctrines which I found most current in my youth. And I judged, further, that a philosophy, if wrong fundamentally, must also be unsound at its psychological basis. I could not, from the other side, accept the idea that a psychology could hold good up to a certain point and hold good no higher. And one aim of this book was hence to show that a truer logic must imply a diverse view of psychical fact. Judgment and Inference in other words, when interpreted rightly by logic, must show their essential nature even at their psychical beginning. They must in an undeveloped form be actually there, and must be really effective at the earliest stage of mental life. This is the conclusion at which the psychological enquiries of this volume are aimed and which they endeavour throughout to enforce.

My interest in psychology led me early to consider Hegel's views on this subject. But I have never pretended to be, either here or anywhere else, a Hegelian. There is much in Hegel's psychology which I do not understand, and there are things in it from which, as I understand them, I am forced to dissent. Still it was here that I found that help which I needed the most. To learn that Association holds only between universals was to pass from darkness into light (see Bk. II. II. I, Note 1). And Hegel's doctrine of Feeling, as a vague *continuum* below relations, seemed and seems to me to have an importance which really is vital. Against an exaggeration of this importance Hegel often, and perhaps too sweepingly, protests. But his main doctrine here was to myself the formulation of that which I had felt to be the fact. The reader must be referred here mainly to Hegel's *Encyk.*, §§ 399 foll. And the information in Volkmann's *Psychologie* (Ed. II or III, § 127) may perhaps prove useful. My knowledge of the history of modern psychology does not, I regret, enable me to say how far here Hegel has followed others, as, I presume, he has followed Aristotle.

If I am asked why I then did not in this work refer to Hegel's psychology, I would refer the reader in general to what he will find in the Preface. I did not, and do not, know the limits of my indebtedness to Hegel; and, if once I began to acknowledge what I owed, I felt that I might be taken to deny or to ignore, wherever such an acknowledgment was omitted. I feared to fall into at least a tacit claim to originality, a claim which through my whole career I have, I hope, everywhere avoided, and with regard to which I entertain a feeling of something like contempt. Still I admit that, in the present case, another course might perhaps on the whole have been better.

I will not try to recall other writers on psychology from whom also I got help, but I am now forced to add that Prof. James (much as I value his work) was not among them. He himself even credited me here with an originality which I had to disclaim (*Essays*, pp. 152-3). Since his death, however, Dr. Schiller has (as I understand him) suggested, in *Mind*, No. 95, pp. 348-9, that the unacknowledged source of the following Chapter is to be found in two articles published by Prof. James in *Mind* in the year 1879. He seems to intimate that I, as being (according to him) a faithful reader of *Mind*, must have read and used these articles. Now not only would anything at that date have found the doctrines of my Chapter already familiar and established in my thought, but, in addition, I had never in 1883 so much as seen or heard of the articles in question. I did not, at the time when they were published, read or see *Mind* regularly and constantly (as seems intimated), but, on the contrary, seldom and exceptionally. And I can assure the reader that there is nothing in the whole volume of *Mind* for 1879 with which in 1883 I had any acquaintance. As to Dr. Schiller's further assertion or suggestion (*ibid.*, p. 347) that what I say I derived here from Hegel is not to be found in his writings, the reader will perhaps permit me to take this as at once characteristic and negligible.

Passing from this point, and in view of the defects of the following Chapter, I must ask the reader not to forget the date at which it was published. I have left it with almost no attempt in these Notes to mention, much less to remedy, its shortcomings. And I wish that I could add that, even if space permitted, such a performance would be within my power.

[2] "Explicit inference." The word "explicit" appears to be used here so as to imply not only "consciousness" but even "reflection." But to include the latter aspect seems certainly indefensible.

[3] "It has no ideas." Add (here and again lower down) "known to be such"; and after "it can not reason" add "consciously." Cf. § 11. Further, after "an ideal activity," add "though that certainly is there." For what is called "ideality" see *Appearance*, the Index.

[4] "If the change is to be known," i.e. in its proper character *as* change, and is to be more than merely *felt*. See, once more, *Appearance*, the Index, s. v. *Change*.

[5] "No differences . . . not-self." Felt differences might of course be there at first without the above specific "dim feelings," and this is the view which I took later in *Mind*, O. S., No. 47, and to which I still incline. This very difficult question is fortunately for the present purpose irrelevant, and may here be ignored. It has, however, great importance in its bearing on the nature of our experience of Activity. For this see *Appearance*, Index, and, specially, the references to *Mind* given on p. 607.

The view which was taken by me in this Chapter may be stated as follows. Every change in feeling is an incoming disturbance which involves a reaction on the side of that which is changed. This reaction shows itself within every feeling as an integral and also dis-

tinguishable aspect. And the felt group which habitually reacts is a central core which is later the basis of what we call self. I can not now be sure whether, and, if so, how far, the "feeling of elation and collapse" (§ 2) and "the felt practical relation" (§ 3) are in these pages taken as precisely identical. But see Note 13.

[6] "Memory." See *Appearance* and *Essays*, the Indexes.

[7] "The ideal side," which, however, is there and is felt (cf. Note 3), though not recognized as such (cf. §§ 7 and 11).

[8] "Presentation." By this I meant simply "what presents itself" in the sense of "what comes." But this use, I found later, caused difficulty, and it would have been better avoided. In the same way "Sensation," in §§ 2 and 4, was not used as distinct from "feeling," but as one aspect of the felt. For the "felt practical relation" see Notes 5 and 13.

[9] Physiology. The reader will content himself, I hope, with taking what follows here for anything that he may find it is worth. Cf. Bk. III. I. VI. §§ 20 foll. for the above, and for the "two material premises."

[10] "An unfavourable view." What, for the sake of convenience, is supposed here is that, in reflex action, a passive sensation comes first, and that the final result of the reflex is to show this sensation altered. But the reader will note how much in this (I need not point out how much) is mere imaginary hypothesis, offered simply to make the main argument more plain.

[11] "An undeveloped inference"—which in itself is not practical. Cf. Notes 13 and 16.

[12] "Mishap and defect." Cf. Bk. I. I. § 20, and I. II. § 73.

[13] "Immersed in practice" (cf. Bk. I. I. § 20). "Practice" and "practical" (the reader should know) are terms used too often ambiguously and blindly (see *Essays*, Index). The *differentia* of "practice" is alteration of existence (Bk. I. I. § 15), and "maintenance" should fall here under the head of "alteration" (*Essays*, p. 83, note). Hence whatever I do is practical, so far as I do it; for so far it obviously alters existence. To lose sight of this aspect, and to treat ideal activities as lacking a practical side, is a serious error. And it may lead to that counter-error, no less serious, for which whatever I do is practical mainly or solely. But the question, in every case to be asked, is What is here my special aim, and how far does the product, when the end is gained, qualify the resulting existence as its adjective? Now clearly an affirmed truth is, in its essence, *not* the adjective of its affirmation. As truth, it is true obviously of something else, and so far (like beauty) it is ideal and transcendent, and is, so far, not practical. And, from the other side, in "practice" everywhere is involved mental activity which itself is not practical, except in the sense that here it subserves practice. "Practical" and "ideal" activity are in short not two things that you can view as existing separate, each apart and by itself. An activity is practical or not practical according to that aspect of itself which predominates, and which you take as here the end and the essence of the matter. And, without

denying that "practice" offers a difficult problem, I am convinced that in the above lies its one possible solution, and that this is the only way of escape from one-sidedness and from dangerous error.

On "practical," as used for the "working" aspect and detail of what is theoretical, see the Index, s. v. *Practical*. And on the whole of the foregoing see T. E., No. XII.

Passing now to "early soul-life," I think that it was right to call this practical, as aiming mainly at the conservation and alteration of existence, though the existence may, as in sexual activity, be that only of the species. On the other hand, even in the earliest psychical activity, we find a side which is not itself practical (cf. Note 16). And again at what point, in animal life, ends other than practical first appear, is a question not to be ignored.

If we turn now to the doubt, raised above (Note 5), with regard to the "feeling of elation and collapse"—this feeling will always be practical in one aspect; but still that aspect may, in a given case, be merely subordinate, while the main essence is ideal. And the same thing holds again (§ 3) with regard to pleasure and pain and what is called "self-feeling." It would be a ruinous mistake to regard these as being practical solely, or even, in their main essence, as practical always. And I do not think that anywhere in the present work that error was made.

[14] The reader will note that I am speaking here of life in general, and not merely of human life. Hence such terms as "feasting" and "war," &c., used below are in part metaphorical only.

[15] "It seems probable." I should now think it safer to qualify this statement by "perhaps."

[16] "Has no immediate practical link." See Note 13.

[17] "Many difficulties." The reader will remember that this refers to the year 1883.

[18] For Association and Universals, see Index, s. v. *Association*.

[19] "The inherited predisposition." This is a point which is not essential here, but to which psychology would of course attach a very serious importance.

[20] I was thinking, here and lower down, of the vertebrate world. To deal with the problem of insect-intelligence was and is beyond me.

[21] "There is no necessity," i.e. *conscious* necessity. Cf. Note 3.

[22] On Disjunctive inference see on Bk. III. I. II. § 25, and on Choice see on Bk. I. IV. § 1.

[23] To insert "enough" after "broadly" would be safer. See Note 20. In the "special functions," mentioned above, as in the "powers" spoken of in § 12, I, no doubt, had in view what is referred to later in § 12, footnote.

[24] "No ground" may, as to higher animals, be perhaps too strong, but the insertion of "great" before "antecedent improbability" was not called for. I can not now recall the actual origin of the following suggestion with regard to "second sight"; but it may well have been borrowed from what I found in Hegel's psychology.

BOOK III.—PART II

INFERENCE—*CONTINUED*

CHAPTER I

FORMAL AND MATERIAL REASONING

§ 1. The words matter and form have an ominous sound. They tend to waken echoes from unknown windings of forgotten controversy. But we mean to be deaf, and these murmurs must not stay us, now our logical voyage approaches its end. We must neglect the metaphysical questions in which these terms would entangle us, and even their logical bearing we shall not try to deal with exhaustively. Nor again do we purpose directly to discuss all the claims of the so-called Formal Logic. Our object in this chapter is to make such remarks, as may tend to clear up what has gone before. And we hope in the process to dispose of some prejudices, and finally to get rid of some clinging illusions.

§ 2. If "formal reasoning" meant that we use a bare form, and that we work with this, as it were with a tool, on the matter of our premises, this assertion might very soon be dismissed. For we have no bare forms we can so take in hand. The principles of Identity, of Contradiction, and of Excluded Middle, are every one material. Matter is implied in their very essence. For without a difference, such as that between the letters A and B, or again between the A in two several positions, you can not state or think of these principles (Book I. Chap. V.). And the nature of these differences is clearly material.

It is no answer to object that the matter here is not special, that the form will work with any material, and that the given material in each case does not formally affect the result obtained. It will not do to argue that, since with all matter the identical form reappears in the end, and in every

case its action is the same—hence the matter is passive. That would repeat a fallacy which has wrought havoc in metaphysics, and which in particular is one main support of Materialism. You can not conclude, because a male proves fertile with every known female, that he therefore supplies the principle of fertility. That would be quite absurd; and it is always absurd, when a result appears from a pair of elements, to argue, Because the *specialty* of the element on one side does not affect the general type of the result, the other element is the sole cause of this type. For something common to all the different cases may exist and may work from its material side, and hence some matter after all may belong to the essence of the formal activity. The "bare" form may be nothing without "bare" matter, though indifferent to the varieties of clothing and colour.

§ 3. If formal reasoning means reasoning with a naked form, then it has no existence. It is a sheer illusion and impossibility. The form, that we use as a principle of arrangement, is not form that can dispense with every matter, but that is independent of this or that special matter.[1] The material element, which remains indispensable, is a general quality which can exist in any number of instances. Thus the form is no longer form absolute but relative.

Now, if we understand form in this relative sense, can we say that reasoning has a formal character? Or rather let us ask what we should mean by such a statement. We might mean, that an inference, if it is to be valid, can be shown as an instance of a certain type. We might mean, that is, that the relation, which is brought out in the conclusion, results from the relations given in the premises, and that all these relations in their proper connection can be anticipated in theory and reduced to formulas. And we might add that, although for actual reasoning you must possess special matter, with which to fill up the blank type of these formulas, yet this matter which falls outside the blanks is wholly inactive. The relation, which unites the terms in the end, is hence not specialized by the particular premises. It is simply the old relation of the formula which, supporting a load of extraneous content, has come out unaltered. Upon this view we may say that the type is a vehicle.

If this is what we mean by reasoning being formal, then I will not say outright that we speak of the impossible.[2] For by a stretch of fancy we perhaps might conceive a realm in which this logic would be adequate. But it does not correspond to real experience. It is not merely that the syllogism has broken down, and that it covers at its best but a portion of the subject. It is that no possible logic can supply us with schemes of inference. You may have classes and kinds and examples of reasoning, but you can not have a set of exhaustive types. The conclusion refuses simply to fill up the blanks you have supplied. It may show a term not given in the premises. It may produce a relation not anticipated in the scheme, a special connection that arises from the individual synthesis of the elements. And the attempt to provide for these endless varieties is, as we have seen (Book II. Chap. IV.), irrational and hopeless. In this other sense of formal reasoning we can see no more than another illusion, a mistake which is increased if we confine ourselves to the figures of the syllogism, and aggravated if we read those figures in extension.

§ 4. Formal reasoning so far has turned out a mere blunder. Let us look at its opposite, and see what we can make of *material* inference. If this meant that the conclusion was really not got by work on the premises,[3] but required the addition of some other matter, then of course it would not be reasoning at all. But if material reasoning merely means such reasoning as is related to fact and refers to reality, then this is an essential quality and mark of every kind of inference. That judgment and reasoning could be confined to ideas was an error which long ago we got rid of. So that if "material" is a name for what transcends mere "concepts" and commits itself to truth, then of course all logic must be material.

But if, leaving such clear truths and such plain mistakes, we understand our term in a different sense, we may get some fresh light thrown upon the subject. Material reasoning might mean such an inference as neglected wholly the form of the premises. It might be taken in the sense of a conclusion which comes from the *data* when used in their full particularity. Given certain elements in a particular arrangement, it might be urged that we get to a fresh result, though we have

used our starting-point as *this* arrangement. The conclusion has come from the whole special case, and *not* by virtue of anything it could have in common with another arrangement.

§ 5. But, if we made this attempt to rehabilitate reasoning direct from the particular, we should once more end in failure. All arguments, as we saw, fall under certain heads, and to this extent must forgo singularity. But this is not all. In every inference there must be in the premises something which does not co-operate in the work,[4] something which is carried by the process into the conclusion, but which itself is not active in carrying that conclusion. There must after all be in every argument a matter which is not relevant to its form.

I do not mean to repeat the most evident truth, that to reason from mere particulars is impossible.[5] That delusion, if not dead, for us is done with. It is palpable that, starting from sensuous images, you denude them by an unconscious selection and use them as types. It was not this I meant; but I wished to assert that, taking your premises in their proper character, and reducing them to that logical content which you really use, you still everywhere have something which stands to the form of the argument as its matter. You have on the one side a process which is able to exist with another different context. On the other side again you have a concrete detail, which appears in the basis and the result, but which does not seem to contribute a special character to the process. In this sense all reasoning is both material and formal, and in each case we can separate the matter from the form. We can find in each peculiar arrangement an arranging principle which is not peculiar.

§ 6. We should all admit that an inference which did not hold in another example, was not a good inference. We should agree that with every argument there must always be some imaginable case beyond the present,[6] in which the principle of the argument would hold. And we use this as a test and trial of our reasonings. We do not merely apply the argument itself, as an abstract form, to more concrete instances, with a view so to prove it by detailed results. We do more than this. We make variations within the content of our argument. Thus we clear the principle from the matter that accompanies it; and, by verifying this principle

in a parallel instance, show that our conclusion was not got by making use of irrelevant matter. But this process implies a belief that all reasoning has a passive detail, which does not co-operate in producing the result.[7]

And the belief is well founded. In "A south of B, and C west of B, and therefore C north-west of A," the relation of A to C is not got by virtue of the A and the C. These are carried by the spatial interrelation, but they contribute nothing special towards it. Their differences fall outside the form of the argument. Take another example, "D = E, and E = F, therefore F = D." Once again the letters, which we use, make no difference to their own arrangement. You must indeed have some terms or you could have no relations, but the specialty of these terms is quite inactive. It is simple matter arranged without regard to its private claims and peculiar character. If we take even such an abstract instance as "one and one = two," still here we can verify the same distinction. It may be said rightly that the units are combined to make the integer, that the integer is perceived to have a new quality, and that finally the identity of the units on both sides is affirmed in an equation. And it may be further asked, Is there anything irrelevant in the whole of this process? Beside the general principle of addition have we not the activity of a special experiment, to which the whole of our *datum* contributes? But, I answer, two units can hardly be conceived quite naked and pure. Some shade of quality, some lingering touch of exclusive relation in time or space is obscurely present, and it makes a difference between *these* units and other possible units. But, if so, such differences will be immaterial to the argument, and they will stand outside what may be called the form. And in Dialectic reasoning (if we do not pass this by) we shall find the same feature. I can not believe that the ideas, which we employ, are ever quite pure. We may indeed *use* that element in each which is strictly relevant, but I think we shall find that other elements are there. And these passive diversities, which vary or might vary, can be called once more the matter of the argument.

If we had an inference in which all the qualities of our content were active factors in producing the result, in that case the matter and the form would be inseparable, and we

could no longer distinguish them. The argument would indeed belong to a class more general than itself, but its working principle would be confined within itself.[8] There would be nothing that was passively carried into the conclusion; and so, in this sense, there would be no matter.

But if such reasoning is an ideal[9] which we can never realize, then everywhere we may speak of the form of an argument, as distinct from its matter.

§ 7. Let us sum up the result. There is no absolute divorce of matter from form, but there remains after all a relative distinction. All reasoning is formal, and is valid solely by virtue of its form. Every inference not merely belongs to a class, or a head of synthesis, but each has a principle which is, so to speak, its soul. In each we can distinguish[10] between passive and active, between the part that carries and the part that is carried.

But, having gone so far, if we please we may go farther. Having distinguished we may separate. We may extract the active principle of the inference, and may state it in the form of a general axiom, exemplified and instanced in the actual argument. We may write it at the top of this actual arrangement, and call it, if we please, the major premise (cf. Book II. I. Chap. IV.).

§ 8. It is *not* a major premise; it is not any sort or kind of premise; for it never has appeared before the mind. It is a function, not a *datum;* nor will any way of treatment transform its character. The major premise, we have seen, is an illusion (Book II. Part I.). We have already exposed it, and return to it here that we may finally show its root in the truth. It is worth while to repeat ourselves, if we only in the end can get entirely clear of this obstinate prejudice.

The defender of the syllogism may wish to take advantage of our latest result. If every inference has a matter and form, then, by using this form as a major premise, we can show every inference in the shape of a syllogism. But this possibility of reduction, he may urge, is a proof that the syllogism is the normal type. And I will add a few words on this exhausted theme.

In the first place I may remark that all valid arguments may as well be reduced to the shape of equations. If success-

ful torture is a source of evidence, then torture will disprove, as well as substantiate, the claims of the syllogism.

But this is a mere *argumentum ad hominem;* and it is better to expose the root of the mistake.

§ 9. We have proved that there are reasonings without any major premise. We have proved that to abstract all the principles of these reasonings, and to set up a complete and exhaustive collection is quite impossible. We have proved again that the principle of an inference, when procured and explicitly stated as a major, may be something quite strange to us, that we do not recognize, and that we never could have used as a premise in argument. I will not do more than allude to these points, which I think have been made evident, and I will go on to consider the last defence of the syllogism. It may be said that, if in the end all reasonings will take this form, it must be in some sense a general type.

Let us consider this claim. It rests on the fact that, having used an inference and obtained a result, you can then abstract the form of that inference. You *did* not use this form as a premise, since it was not a *datum.* But you can use it, now that it has come into your hands. And, so restated, the inference after all will be a syllogism. This, I think, is the claim, and we now have to show its utter worthlessness.

§ 10. It is worthless for this reason, that your major, when you get it, may do no work. It may stand above the actual process, and contribute nothing to the production of the result. What will happen is this, that your minor will contain the real operation, and the major will be simply not used at all. Let us take the inference, "A precedes B, and B is contemporaneous with C, so that C must be later in time than A." We have to make this take the shape of a syllogism, and we do it by abstracting what we call the form. "What is prior to anything is prior to that which co-exists with the latter," or, "When two events co-exist, and a third precedes the first, it stands also in the same relation with the second;" this becomes the major. In the minor, of course, we have to bring the instance under the principle; and the minor therefore will be simply the whole of the former premises. Then what is the conclusion? That of course asserts of the instance in the minor the predicate given in the major premise. The predi-

cate is a relation of antecedence and sequence, which, when transferred to the instance, is the relation which holds between A and C. And the result is undeniable; it is certainly correct; but then it does not *result from* the major. It is simply the old conclusion from the old premises, which are now restated in the minor. The minor unassisted *did* get out the result, and it is natural to suppose that the minor still continues to get it; while the major remains inactive and but idly presides.

Let me further explain. We are offered something in the shape of a syllogism, and are supposed to use a function of subsumption. Do we use this function? Do we, holding the principle, then fill up the blanks with A, B, and C, and so get our conclusion? Or is it not rather true that we do precisely what we did before, that is make a construction of A, B, and C, and so get the relation? But, if so, the major will be simply otiose. I do not say that its presence makes no kind of difference. For at first our construction was not reflective; it was performed unconsciously. And now we, consciously and with some foreknowledge of the outcome, apply the same function. But still we apply it; we do not cease to arrange A, B, and C in our minds. We do not pass into the category of subject and attribute,[11] and so get a predicate A–C by a mere subsumption.

Take another example. We have two pairs of equals, AB and BC. By holding these together we perceive that their quantity is the same throughout. From this we go to the principle, "When two terms are each of them equal to a third, all these terms are equal." We then construct a syllogism with this axiom as the major, and bring out the old conclusion, A = C. But, in getting this result, do we cease to obtain the relation of equality by holding A, B, and C together, and by perceiving their identity? Do we say "A and C are equal to the same," and then, *without any synthesis through* B, go on to our conclusion by a mere subsumption? Is not the other course more natural, and is it not more rational? If we keep to those cases where the subsumption is *possible,* is it not somewhat frivolous?

§ 11. It is in most cases possible. If you do not mind frivolity, you can torture *most* inferences into a syllogism of

the kind which we have just described. Nay, there are *some* cases where no torture is required. For where an operation has been repeatedly performed, the connection between end and beginning grows familiar. We can dispense at last with a lengthy process, and, using the axiom, go at once to the result by a mere subsumption. And I will not deny that the axiom of equality may be so made use of. But the subsumption in these cases will be rarely *explicit*. Even here what we use will *not* be a syllogism. Still we do here use a function which, when stated explicitly, would be syllogistic.

In these cases the major may be said to do work. The function which established the axiom does not operate; and the conclusion is reached by an act of recognition, which, when you make it explicit, and so gain another premise, will fairly take the shape of a syllogism. We admit that (in these cases, which still are not syllogisms) the reduction is rational; and we admit again that in *most* other cases the reduction is possible, though utterly frivolous.

§ 12. But for all that the claim of the syllogism is worthless, for the reduction is not always even *possible*. You must come to a point where the attempted subsumption proves wholly illusory. For consider a regular syllogism itself. This contains a function which is not a premise. If I argue, because any man is mortal and John is human, that John must die, the general form of the synthesis is not given. We must write the whole of the argument as minor and conclusion, and for major we must take such an axiom as "What falls under the condition of the rule falls under the rule." Under this major our former inference is subsumed as a special instance. But now mark the difficulty. This fresh subsumption is an active function, and hence its principle should find expression in a major. But what is this major? Suppose we agree that our last axiom was ultimate; then once more this same axiom must be written at the top, and it thus will figure as the principle of itself.

What I mean is this. If you *will* reduce to subsumption, in the end you must come to something final, and your subsumption will consist in the use of a principle, in order to bring another use of this same principle under itself. You have first an argument based on a certain function of syn-

thesis; you have then the connection of this argument with its function, based once more on a function of synthesis; and the first and the last of these functions are identical. They are absolutely the same. But, if so, I would ask, is your reduction not worthless? If you use in the end the precise form of synthesis, which you used at the beginning, why not be willing to stop at the beginning? Why not openly say, I *used* a function but did *not* subsume under it; and my further reduction has simply made me conscious of what I did do? It has not changed the function; it has but given it self-consciousness.

Reduction to the shape of a syllogism makes explicit the function of the inference, and it does not substitute another function. But from this we may proceed to a result unwelcome to the friends of the syllogism. For if the function we begin with is *not* syllogistic, we deceive ourselves in thinking that, by going back far enough, we transmute its character. Suppose that A may be *b* and may be *c*, but nothing beyond; and then we argue from the absence of *c* to the presence of *b*. This clearly is not syllogism. But you say it *is* syllogism, when you write "Where I can not do otherwise I must," [12] and repeat the inference as a case of this major. Entire delusion; for how is it that you know that your minor comes under the condition of the major? By a function of subsumption. And the principle of this subsumption is whatever axiom you agree to take as the basis of syllogism. But then that principle itself is not so ultimate as the axiom that you must where you are unable to do otherwise; and hence it must stand and be based upon this latter axiom. What is the consequence? The consequence is that in the syllogism, which you manufacture, you *really do use* the more ultimate principle which you used before. But, if your reasoning actually *were* syllogistic, you would have to use the subordinate principle. This would mean that the use of a higher function is taken as the use of a lower function, and in the end, if you carry out your process, must appear as one case of a *subordinate* principle.

§ 13. You can not transmute all inferences into syllogisms by extracting their general function of synthesis. For that function, when exhibited in its abstract form, continues in

most cases the very same work which it performed before; and in some cases it can not do else than continue. The difference, which we have made, has been therefore no difference to the action itself. It has been a difference to our knowledge of the action. We have not changed the nature of our function; we have simply made a reflection on that nature. But, if so, we must say that the syllogism, which we have constructed, if taken as showing the actual process, is a blunder and mistake. It is instructive only if you take it as a mere mode of reflection, by which we explicitly state and lay down the function which we use apart from that reflection.[13]

This final exposure of an old superstition shows the root by which it keeps hold of our minds. There is in our arguments a form more abstract than the arguments themselves. And it may be useful to separate this form from its matter, and so perform self-consciously the very same act which we accomplish unawares. And if this extracted major be understood as the *statement* of a principle which *operates* in the minor, and if we remember that it is the minor, and the minor alone, which in these cases *gets the conclusion,* there is then no harm in our continuing to use a logical tradition. But, since we are certain not to remember, and since others (if we remember) will forget, my voice, if I have one, is for putting under ground this much decayed object of unpleasant warfare.[14]

§ 14. Let us cease to pretend that the principle is a premise. Let us try to call things by their real names; and, instead of applying for the production of a major, simply ask for the form and principle of an argument. This is rational and useful; it is good alike for theory and for practice.[15] By finding the functions made use of in our proofs, we can classify them with a view to a further understanding. And we may thus avoid some mistakes in the actual work of reasoning. For by an exhibition of the abstract principle we can distinguish what is relevant from irrelevant detail. When doubtful of an inference we may desire to know how the conclusion is got. We therefore ask for the active function, and we make this explicit, by direct abstraction from the inference in hand, or indirectly by a previous comparison with other instances. In this way we can test the form, either by a simple scrutiny

of itself, or by seeing how it works in fresh applications and further deductions. And this process is useful as well as rational.

§ 15. There are two parallel mistakes, which we must try to avoid. We must not fall into thinking that our actual inferences are proved by deduction from a general form. And we must shun the idea that this principle itself is proved by the collection of working examples. The universal neither demonstrates, nor is demonstrated by, its particular applications.

It does not demonstrate them for this reason. It is not a statement which is believed when received, but a function which must be worked in order to be seen. And it can not be worked quite pure in a vacuum. Some matter must be used. And hence, when we lay down the abstract principle we really are using a concrete instance, though we distinguish in that instance the matter from the form. But this shows that in the end our criterion must be an individual operation.

Take for instance the axiom, that things equal to the same are equal to each other. The only method of perceiving this general truth is to make an experiment in which you distinguish the equality from the other attributes of the terms, and observe what each element contributes to the result. We must use in the end this individual test.

"But," it will be said, "this criterion in its use is universal, and our particular reasonings are proved by subsumption under its conditions." This is the old mistake. Our fresh cases, as we saw, are themselves proved true by a renewed experiment. Our criterion serves merely to show us the essence of the act which we perform, and to give us in the operation the distinction between its form and matter. But the consciousness of this distinction, I must repeat, is not the proof of the actual conclusion. You might just as well say that the fresh use of the function was a proof of the axiom.

§ 16. And this last remark leads us to the parallel mistake. No amount of mere instances, where the function is used, would demonstrate its principle. Their number and their variety are precisely that part of them which is not relevant to the principle itself. When operations, that look like analogous instances, all have consequences which square with the

nature of things, this affords a presumption that some valid principle is present though unknown. But the proof of this principle comes solely from abstraction;[16] and the number and the differences of our applications help us only so far as they help us to this goal. They work not by the support but by the destruction of each other.[17] They prove the axiom by discarding themselves, and they all unite to demonstrate each by reciprocally discounting their private irrelevancies.

We may so put the result. A principle will neither demonstrate its applications nor can it be demonstrated *by* them. The principle is demonstrated when we see it *in*, and as the function of, an individual act. The instance is demonstrated, first by the concrete performance of the function; and secondly it is shown to be an instance, when in that performance we distinguish the form from the passive matter.

§ 17. You can not reduce all reasoning to syllogism. Every inference is necessary, and the necessity of the process can be formulated as an universal truth. This principle is more abstract than the inference itself, and more abstract than the conclusion which the inference reaches. But then itself is not one of the premises. It is that which developes the conclusion from the given, but it is not given itself; and the attempt, as we saw, to get it into the given, conducts us to a process that is simply idle. It is this confusion between principle and premise which has served to protect the old age of the syllogism.

And on this basis we saw that we might effect an understanding. If it were admitted, on one side, that the syllogism supplies no general type of the reasoning act, it might be allowed, on the other side, that it is a mode of stating the principle which is used in that act. It *is* universal as a form for showing the explicit and conscious exercise of a function.

But, for myself, I must repeat that, friendly as I am to the friends of the syllogism, I can not venture to support this compromise. When I think of the futile and fatuous performances enjoined upon the student, when I think of the nature of too many of his instructors, I feel sure that the syllogism, if it continues to be taught, will be taught as a form to which we must reduce every valid argument. It would never be taught as a form in which we may state our know-

ledge of an argument's principle. And, then, even if the orthodox logic might be learnt in this heterodox spirit, we should cover in the end but a part of our subject. I can not speak from experience of the more active side in the educational suffering, but still I must venture to offer a suggestion.[18] Most humbly I would submit to all teachers who are resolved to stand by the syllogism, that they are teaching what is either incomplete or false. And if they care not for truth but for practical results, then I think for the sake of their much-enduring pupils they are bound to make at least some trial of the Equational Logic. There is reason to think that it might answer better, and I hardly see how it could turn out much worse.

§ 18. We have now finished all that we desired to say on the relation of matter to form in logic. We have seen that no reasoning is absolutely formal, but that in logic, as indeed in all other sciences, there is a relative distinction of form and matter. We then entered a repeated and final protest against the idea that action was subsumption under a form of activity. And we expressed, not a hope, but a pious wish that together with this false notion the syllogism might be banished.

We may end these inadequate remarks by a warning, that both matter and form bear other senses, which we have not mentioned. An inference may be good in point of *form,* when, though the substance is incorrect, the conclusion follows from the premises given. An argument again is *formal,* when its steps are drawn out in regular detail; or, possibly, when the principle is explicitly stated. *Substantial* again or *material* may mean much the same as *implicit.* A process once more is *merely* formal, when it effects an arrangement which is not material to the substance of the case. But, where the form is the essence, *mere* material alteration is likewise irrelevant. The further question how the form stands to the universal, turns upon the categories of relation and quality, and can hardly be discussed outside Metaphysic. And with these disjointed statements we must pass to a theme which has long been awaiting us.

ADDITIONAL NOTES

[1] "But that is independent." Here, and in "is wholly inactive" (in the next paragraph), we should substitute, for "is," "can be taken as." Cf. on §§ 5 to 7.

[2] "The impossible." I should have said "what is, everywhere in Logic, impossible *practically*." For we have here, certainly, what in the end may be called impossible in principle.

[3] "By work on the premises"—taken, that is, in the very widest sense. See on Bk. III. I. III. § 3, and the Index, s. v. *Premises*.

[4] "Something which does not co-operate" and "which itself is not active." The "does" and "is" should here be taken as qualified. See Note 1. Otherwise we push an abstraction, which is necessary in Logic, beyond its due limits. Cf. Notes 7, 8, and 9.

[5] "To reason from mere particulars." See Bk. II. II. Chap. II.

[6] "Some imaginable case." Even if in one sense the case is unique necessarily and in principle—as it may be when we reason about the One Universe—still in another sense it is never so. The same argument, used yesterday, to-day and again to-morrow, will also be different cases of the same argument. The possibility of a "unique" argument is, however, ignored in the text, which therefore so far, calls for correction.

[7] The expressions "passive," "does not co-operate," and (in the next paragraph) "is quite inactive," must all be taken as subject to qualification. Cf. Notes 1 and 4. From this qualification, however, Logic has the right to abstract, and to treat the *unused* as if it were *inert* absolutely.

[8] "The argument . . . itself." Cf. Notes 2 and 6.

[9] We have here an "ideal," even for Logic, because all truth, to be quite and wholly true, must include every aspect of itself. Cf. on Bk. III. I. VI. § 15, and Bk. III. II. II. § 13, and see T. E. I. On the other hand the realization of this ideal would carry us beyond truth as such. And hence Logic, in order to exist, must more or less ignore its own ideal.

[10] "We can distinguish." It would be better to insert "for our purpose" before "distinguish."

[11] "We do not pass . . . category." "We do not pass normally into the *mere* category" would certainly be more correct.

[12] "Where I can not . . . must." For the nature and more correct form of this principle see the Note on Bk. III. I. II. § 25.

[13] On the question as to how far subsumption is everywhere essential to argument, see Bosanquet, *K & R*, pp. 274–283. We may agree that to reason with a consciousness of the principle actually used is both higher and more rational. But it does not follow from this that such an awareness is essential and necessary. The recognition that one's operation is an instance of a certain principle does not, even

if the recognition accompanies the operation, transform that so that it becomes itself subsumptive. And even if we, while reasoning, could perceive the necessary place in the whole system of the Universe which, with all its connections, is filled by our inference, I should still persist in my denial. For neither the rational scheme of the world in general, nor every particular consequence falling under and within that system, can, I think, be subsumptive in its main essence. Hence, while it may be right for certain purposes to apply to the Universe the category of Subject and Attribute, it is another thing to regard the Universe as a system whose contents are deducible throughout under that mere category, and to take that category as containing the working principle of every inference.

[14] The expressions used, here and again in § 17, are perhaps exaggerated. After all, this question must, I presume, be left to those who (unlike myself) possess actual experience as teachers of Logic, or who (again unlike myself) make use in their own practice of logical rules.

[15] "Practice," i.e. theoretical practice. See the Index.

[16] "But the proof . . . abstraction." "Proof" should here be "perception" or "apprehension." Abstraction can hardly amount to proof (see Bk. III. II. III. § 11, and the Note on Bk. III. I. II. § 23). The criterion must really everywhere consist in system (see the Index, s. v. *Criterion*). This truth has again been too much ignored above in § 15.

[17] "They work not by the support." This is one-sided, though it holds as against the mistake which is being noted. A principle is shown to be more true the more widely it holds. The criterion (once more) is system. See *Appearance*, and *Essays*, Indexes, s. v. *Criterion*.

[18] I think this suggestion—both generally and with regard to Equational Logic—was too hasty. See Note 14.

CHAPTER II

THE CAUSE AND THE BECAUSE[1]

§ 1. We have seen that an inference is an ideal operation which gives us a result. The conclusion comes *because* of the process, and it is natural to imagine that the process must therefore answer to the *cause*. If so, we should be led by a very short cut to a far-lying goal. In reasoning we should always be knowing by causes, and, at least for our knowledge, the connection of truths and the course of events would be one and the same. But such a rapid success is itself enough to awaken suspicion. Great results in metaphysics are not reached so easily, and a promise of short ways is almost sure to conduct us into error. We should find that enquiry would confirm the doubt excited in our mind by this general presumption.

Is the middle in reasoning always the cause? No doubt we have some ground for taking this as true. For wherever we say "because," there must be an inference. Wherever we ask "why," we ask for a reason; and a reason, when given, is once more a because. And so we might conclude, since to infer is to reason, and since in reasoning we always make use of a reason which gets the result, that the middle in an argument represents the cause, and that the conclusion stands for the effect of the premises.

§ 2. It would be irrational either to affirm or to deny such a general assertion. For we can not say at once what it signifies. The word "cause," we know, has a great many meanings; and its ambiguity does not lie in mere verbal looseness, or rest on the chance obscurities of language. It is the cloud that arises round the common source of many great problems; and, if we tried to penetrate, we should at once be lost in the mist of metaphysics. The "cause" may not be distinguished from the "principle," and then every universal connection will be a cause. On the other hand "cause" tends to pass into "substance." It appears again as "energy,"

"force," and "power," accepted by some as the essence of reality, while rejected by others as absolute illusion.[2] The controversy, that springs from this radical difference, would be fought over the fields alike of metaphysics, psychology, and physiology, and would embroil us everywhere in debate and uncertainty. We should ask in vain for any harmonious finding as to the bodily process which conditions my feeling of energy put forth.[3] We should find no answer if we desired to know the actual deliverance of consciousness itself,[4] and begged for an account of what we feel as will. And lastly, when we enquired if Force or Energy is anything conceivable, if it is an idea self-consistent and so far possible, or a coarse delusion that breaks up before scrutiny—we should receive once more conflicting responses.

If we mean to ask here how the grounds of our reasoning stand to the causes of our real events, we must begin by limiting the meaning of our term. Cause must be confined to the antecedent member within a law of the sequence of phenomena.[5] I do not mean that the cause is to be the *unvaried* event, that it is something which, throughout a collection of instances, *has* happened in time before something else. We must take it in the sense of the *invariable* event. It is that to which, *supposing that* it happens, something else will succeed. In other words it is the *hypothetical datum* from which there comes a *necessary* consequence. It is an universal element in an ideal law of the sequence of phenomena.* (Cf. Book I. Chap. II.)

§ 3. If by cause we understand the antecedent in a law of the succession of phenomena, we can at once proceed to discuss the question, Are the cause and the reason always the same? And we may divide the enquiry into these two parts.

* The term "unconditional" would merely express this same idea. If B comes *invariably* from A, it must come unconditionally;[6] for the introduction of a condition would modify A, so that B would no longer come from *it*. And again, supposing that we could say no more than that "B follows from A, when A is conditioned," I do not see how in that case we could assert that B follows invariably from A. We could not assume that an alteration of the conditions is impossible, or that no possible alteration would affect the sequence. I do not ask if the knowledge of the invariable and unconditional is possible in fact. Cf. § 14, and *infra*, Chap. III. § 11.

(i) Is the cause, as we know it, always a because? (ii) Does every because appear as a cause?

(i) Is causation, in the first place, known by inference? Can we say there is a cause, when we do not reason? This would surely be impossible; for, in perceiving the cause, we must perceive the law, and, possessing the law, we have at once in our hands an universal connection. And to judge, Here is a cause, is to take the antecedent as an instance of this law, and to take the result as a necessary consequence. But this process is reasoning.

It is useless to deny it. It may be said that the actual process of causation is a real chain of existing things, and is no ideal construction formed by our minds. But this objection, if true, would be quite irrelevant; for we are talking of cause and effect as we know them. And without such a reconstruction it is impossible to know them.

§ 4. I may be told that the cause and the effect are presented, that they are given to sense. Well, for argument's sake let us suppose that the sequence is confined to a single sense-perception. It does not follow from this that our senses present it to us. We surely never could *see* that mere B follows mere A. We see a complex, a tangle of details, from which we separate this thread of succession. The so-called fact, that mere A comes immediately in time before B, is an universal connection, which is reached by a process of intellectual abstraction. Itself is ideal; it is nothing that by any possibility could exist. For A is not a phenomenon, nor is B a phenomenon, but both are abstractions. Their relation again is no phenomenal sequence. It is purified from a mass of irrelevant details, it is removed from the flux of actual events. It is a truth that is true, not anywhere but in the region of universals and the world of hypotheticals. And the result of this is that to know the law is to know the product of a reasoning by abstraction; to know the instance is to reconstruct this case as a synthesis of the law with a particular element; and to know the so-called particular fact, that A comes before B, is either to perceive something which in part has no connection with the mere and pure antecedence of A to B, or else must be really in a particular instance to apprehend the very law itself. (Cf. Book I. Chap. II.)

For example, if I see a man fire at an animal and say, The shot was the cause of death—the cause is here clearly a because and a reason. For I have isolated this thread from the sequence of phenomena, and now unconsciously take the particular fact as an instance and application. Thus let the whole act of firing be A (*cde*), and the fall of the animal be B (*fgh*); the apprehended connection will be A — B, and it is because we perceive this that we are able to say, A (*cde*) and *therefore* B (*fgh*). The inference is probably not explicit, but it certainly is there. For how could I *use* the observed succession in *other* cases, if it was not universal? And how in *this* case could I speak of causation, as distinct from mere succession, if I did not take *this* sequence as having a principle which connects its terms? But that is reasoning and inference.

§ 5. Causation is no mere phenomenal sequence. It implies a principle felt in the succession of the elements; and that principle is a connection which can not be presented. Let us dwell on this truth. We have seen that it holds with a simple succession, but it holds still more with a true process of causation; for that (if we go on to understand it rightly) can not possibly be a *simple* relation of sequence. It is a change in time, and no change would take place unless it arose from a meeting of elements. To apprehend causation we must first distinguish the elements, before they have come together. And thus we get to perceive what may be called the "conditions" (p. 210).[7] But these conditions, when asunder, are not yet the cause. To make the cause they must come together; and their union must set up that process of change which, when fixed artificially, we call the effect. Hence to know causation we must (*a*) first have the elements in ideal separation; we must (*b*) then ideally reconstruct their meeting, and from that (*c*) perceive the issuing change. But such a knowledge surely can not come from presentation.

To repeat—you can not properly talk of causation, unless you can say first that something was, then that something happened to it, and that so something else appeared in time. The full "conditions" are not the elements apart, but the elements together with the change which unites them, and combines itself with them. It is in the moment when this

union is realized, that the process begins; for otherwise the "cause" might exist for ever, and not begin to produce its effect. But this process of change *is* itself the effect, and nothing else can in strictness have a right to that name. We have first the elements apart, then their union, and lastly the product.* You can not even think the law of your instance without an ideal synthesis through identity.

Thus to experience a definite relation of succession demands the separation of irrelevant and relevant. But this is abstraction, and therefore inference. And to experience that succession as following a change implies a reconstruction by identity and a further inference. But the main point is this. To recognize a succession as a causal sequence means to perceive the facts as a presented law. And to see the law in the facts is to unite the facts by an ideal principle; and this is to reason. In other words to say, This phenomenon B was the effect of A, implies the perception of an ideal connection be-

* Hence we see that a cause demands *previous* change. It can not exist without producing its effect, so that, if the effect is to have a beginning, the cause must have a beginning also. To produce the effect it *becomes* the cause; and that becoming is a change in time, which naturally calls for another cause by which to account for it. Hence *first* cause is pure nonsense.

Again the effect is the change which issues from the union of the conditions. It is a passing event, and it is only by a licence that we allow ourselves to treat it as a permanent product. Being a phenomenon in time it can not *persist*. Once more the effect must *follow* the constitution of the cause; it can not begin until after the moment when the synthesis is complete. It is impossible it should ever co-exist with its cause, and the belief that it does so arises from confusion. For we forget that both cause and effect are events, and we tend to think of them as substances maintaining an identity in spite of events.

But, though the effect succeeds, it succeeds *immediately*. Causation is really the ideal reconstruction of a *continuous* process of change in time. Between the coming together of the separate conditions and the beginning of the process, is no halt or interval. Cause and effect are not divided by time in the sense of duration or lapse or interspace. They are separated *in* time by an ideal line which we draw across the indivisible process. For if the cause remained for the fraction of a second, it might remain through an indefinite future. *Permanent* cause, unless you take cause in another meaning and treat it as substance, is simply nonsensical. I should be glad to discuss some of the difficulties which arise in connection with causation, but the questions raised would hardly be logical.[8]

tween A and B. But to know by means of an ideal connection is to know that the fact is a result of that connection. And this must be inference. It may be latent and unconscious, yet still it is there. The mere conjunction has become a connection, felt as such. And this connection is now used with other conjunctions. But, if so, the facts are united in my mind because of an universal.

§ 6. The thread of causation is nothing visible. It is not seen till it is demonstrated; and it is demonstrated solely by the ideal decomposition and reconstruction of events. It is an ideal unity which *we* discover and make within the phenomenal flux of the given. But it has no actual existence within that flux, but lives first within the world of universals.

And from this we may proceed to draw a consequence which serves to transform a worn-out controversy. To ask if the belief in cause and effect results from the mere repetition of sequences, is to put the question in a form which ensures and necessitates an erroneous answer. For, if the definite sequence has once been perceived, what need can there be for further repetition?[9] The knowledge that *mere* B has followed on *mere* A, would itself be the very goal which we desire to reach. But on the other hand if this pure sequence is *never* experienced by mere sense-perception, then, with all our repetition of innumerable perceptions, we do not ever repeat the experience of that sequence. The true point at issue is the way in which, from impure presentations, we derive the pure intellectual sequence of B from A. And we have seen that the process is in principle abstraction, and in its essence consists of ideal analysis. The repetition serves merely as a help to the abstraction (Chap. I. pp. 530-1).

§ 7. Since to recognize a case of cause and effect, is to apprehend the instance of a law universal, and which can not be presented in sense perception, we are safe in saying that, in order to know causation, we are forced to reason. And in this connection we may perhaps be excused, if we pause to consider a radical mistake. Reasoning, we are told, consists in a seeing with the eye of the mind, by which we perceive "details now unapparent to sense." It is "a mental vision reinstating unapparent details." "What is termed the explanation of a phenomenon by the discovery of its cause, is

simply the completion of its description by the disclosure of some intermediate details which had escaped observation." * It would be difficult to find any statement more opposed to the doctrine which we embrace.

And it is a statement which collapses before the smallest scrutiny. For suppose the whole mass of detail to be present, suppose not the smallest element to fail—is this huge congeries an explanation? Or what is explanation? Does it not rather consist in finding within this mass the threads of connection? But these threads are no details,[10] and they unite no details, apparent or unapparent. For they are made by abstraction, by a getting away, from the details of sense and their sensuous relations, to universal laws which subsist between elements too pure to be presented. The sequences of science may be got by observation, and may be given by description; but it is an observation which mutilates phenomena, and a description which shears off all those details which belong to the very essence of presentation.

§ 8. To explain a fact you must exhibit it as the instance of a general principle or meeting of principles. The mere beholding an intermediate something would be *by itself* no kind of explanation. It is an old superstition to look for causality in a something coming *between* the first fact and the second one. You can explain without any sort of intermediate,[11] and, when you have intermediates, you may still have not explained.

I am far from wishing to write down these platitudes, but they may serve to dispel a thoughtless mistake. Suppose that I place a glass bottle on the fire and it presently breaks. "If you had better eyes," I shall hear the remark, "you would see the molecules, and see them irregularly increasing their distance the one from the other. Then the bottle would separate, and this has been explanation. For you have seen the intermediate hidden phenomena." But, I reply, I have seen an enormous number of other details, and, if I fail to make the right connection, I have not perceived the cause. This connection is moreover a preparation of mine, which iso-

* G. H. Lewes, *Aristotle*, p. 76. I do not raise the question how far Mr. Lewes's later (and, I presume, borrowed) utterances are consistent with this view. It is a typical mistake, and as such may be examined.

lates one thread from the tangled whole. Is it really *not* possible to have, as we say, the cause before our eyes, and then fail to perceive it? Is presence of a mass of detail in perception, and apprehension of the relation between two elements, exactly the same thing? If one is left at the end of one's devoted labour incapable of making such a simple distinction, I almost think it would be better not to talk of having "toiled through modern German philosophy" (*ibid.* p. 80).[12]

Presentation to sense of intermediate detail is in itself no explanation; and without an intermediate you may still explain. If the case is taken as the instance of a rule, even that by itself is *some* explanation. I know it has been said, and by those whom I respect, that we have nothing here but bare tautology; that it is frivolous to tell me that this bottle breaks *because* all bottles break. But I confess I never could see the *bare* tautology. For the particular nature of our one bottle is in this way connected with a general law. It does not break because it is a black bottle, or a quart bottle, or a bottle made by an infidel and on a Sunday, but because it possesses an unstated quality common to other bottles. And this quality *is* a reason why it breaks. The explanation of course does not satisfy our desires, since we want to make the quality explicit; but, so far as it goes, it does give us some principle, and it can not fairly be condemned as tautologous. In just the same way an apple falls down *because of* gravitation, and this knowledge connects the other qualities of this falling body with a general attribute of material things. The explanation, I admit, leaves much to be explained; but I can not see that it gives us mere words. On the other hand, however, I do not perceive that it presents us with any intermediate details.

§ 9. But what is the truth which underlies this error which we have been considering? It is the mediate character of all explanation. You show that a connection, which seemed immediate, is not what it seemed. You point out the link which serves to unite the second element with the first. And, starting with this truth, the mistake we are discussing goes on to turn the link into one constituent part of the chain of events. It confuses that which is mediate ideally with that which is separate by an interval of time.

Thus, if Protestants commit suicide more often than Catholics, we explain this fact by showing that suicide is increased by civilization,[13] and that in the main Catholics are more ignorant and uncivilized. Higher culture is mediate between Protestantism and suicide, but it surely is not a detail which always intervenes in time.

No doubt in a very large number of cases, in order to find the true immediate connection, you are forced to enlarge the presented phenomena. Where analysis fails, you supplement the given by ideal synthesis, and find in that supplement the true connection. But this is accidental, and it is not essential. The essence of the explanation of phenomena consists in getting the relations pure, and by analysis of the facts connecting their detail with those pure relations. It does not consist, and it could not consist, in the mere unintelligent gaze through a microscope.

§ 10. It is not my object to ask in the end what it is to explain, or to discuss the ultimate metaphysical nature of a law or principle (Book I. p. 88). But our rational instinct prompts us to assume that we explain by offering something universal and something real. Now the "laws" of phenomena are assuredly universal; they give not the facts but a garbled extract.[14] And their truth is hypothetical; they do not even pretend that the elements, which they connect, have actual existence.[15] Hence the unfortunate holder to sensuous reality is driven to face a desperate alternative. He must explain the real by what is not real, or he must assert that reasoning and all explanation never go beyond mere sense-presentment. He must persist that it makes a mere addition to the detail which comes to the senses or the sensuous fancy.

But we have seen that his alternative is a common-place blunder. For causation, as we know it, is never the sequence of actual phenomena, or of anything that could exist in the phenomenal series. No imaginary detail, added to the given, could do more than increase the existing confusion. If the history of a thing is ever its explanation, this is true because history can never be sensuous. By design, or even against its design, it must mutilate the facts, and substitute for them a thread of connection which never could have been visible. Our reasoning and our knowledge of causal sequence is not

ideal in the sense of an imaginative resurrection, or a miraculous increase of the sensuous supply. It is ideal because it is intellectual, because it demonstrates a connection between universal elements, because it substitutes for fact, and connects the facts by, a rational construction.

§ 11. Even where we explain by assigning the cause, we must rise into the world of ideal arrangement. For inference is never a mere presentation, and the knowledge of causation, we have seen, must be reasoning. The first of those questions, which we raised at the beginning (§ 3), has been answered affirmatively. To know the cause is to know the because. But the second enquiry remains unanswered. When we know the because, or the reason why, have we learnt the cause? Are both one and the same? We must now endeavour to find an answer to this question.

(ii) If cause were understood in the sense of *principle*, then every reasoning would rest upon causation. It would be a cause in each argument by virtue of which we proceeded to get the result from the premises. But this identity of principle and causal law is the very point which is under discussion. And if causation is confined to sequence in time, the way to put the question is this, Can the principles of reasoning be all exhibited as laws of sequences? Must the principle of knowledge be a principle of becoming?

Is the because in reasoning always a cause? Most clearly we can not make any such statement.[16] When, from A = B and B = C, we conclude to the equality of A and C, it is hard to see how any common relation of both with B is the cause why A *comes to be* equal to B. And the enquiry, once opened, lets in a torrent of kindred objections. Is the proof in geometry the cause of the conclusion? Does the result *turn* true because of my construction, or does it only *turn out* true for my knowing mind? Two coins are proved to have similar inscriptions, because they each are like to a third, but the cause is not found in this interrelation. The cause is the origin from a common die. If a vessel has sailed for London or Liverpool, and we know that it has not sailed for the former, we argue that its course is shaped for the latter. But is our middle a process of actual causation? We can hardly say this, and we

could give no reply to an endless variety of similar questions. So far is the middle from always presenting us with the cause of the conclusion, that, given an inference, we can draw no presumption in favour of that view. The truth is in general perhaps more likely to lie with the other alternative.

§ 12. The question "Why" is always ambiguous. It asks indifferently for the cause of the thing, or for the ground of my knowledge. And the answer "because" repeats these two senses. It gives us alike the reason of the fact and the reason which has led me to believe in its existence. And it offers no sign by which we may distinguish these radical differences.

The presumption, if there is one, is against the identity of the cause and the reason. We can not in any case treat them as one, if we have not some special ground for our assumption. Wherever the premises represent a reality in time, which, actually and by its own necessity, goes into a construction—wherever that construction itself is real, and the quality or relation, that appears in the conclusion, is its immediate result—in these cases, and in these cases alone, the because and the cause must be identical. Wherever, on the other hand,[17] a division or a junction is made by the arbitrary choice of our minds, there the reason for knowing and the reason for being fall hopelessly asunder.

§ 13. We shall return to this theme in a following chapter; but for the present we may endeavour to close some sources of dangerous fallacy.[18] And the first of these rises from an obstinate confusion. Every conclusion possesses two characters (p. 226). It is a psychical event and a logical judgment, and what is true of it in one of these aspects, may be wholly false if you take it in the other. Now, if you consider the judgment as a mental occurrence, the premises are always part of its cause. The presence of these elements, together with a mind in a certain state, at once sets up that psychical change which gives the conclusion. The logical grounds are psychological conditions, and as such they do work in bringing about the existence of the result. But we turn this truth into absolute error, if we go on to say that the premises are the cause, or even part cause, of the existence of that which the conclusion affirms. For it is not the *content* of the final judgment which thus has issued from the synthesis of my mind

with the premises. It is not the relation of A to C which is caused by the apprehension of AB together with BC. What is caused is nothing but an act of judgment, and that act is a genuine psychical result, though the content it affirms may have no kind of reality. It is the bare event of assertion, and not the truth of the matter asserted, which follows as effect from the psychical conditions. The cause in psychology and the ground in logic must be carefully distinguished. The two series may run parallel, and may partly coincide, but they are never identical.

§ 14. We may notice in passing a possible objection to this coincidence of causes and grounds.[19] It might be said that a cause must produce its effect, while logical grounds may be idle in the mind, and fail to produce a logical result. But the objection would rest on a misunderstanding. If we consider the logical process from its aspect of a psychical movement, then no doubt we may say that the consequence does not follow from the premises, unless another condition is presupposed. We have to assume a mind, not merely present but specially active, and therefore intervening. But, we may urge in reply, that the conclusion can still be said to follow, since the function exerted by the mind is regular. When we say "it follows," we mean that it follows given the activity of a normal intellect, which abstains from exercising arbitrary choice. And our assertion is thus elliptical but is not really incorrect. For this same elliptical character, we may add, is found in our judgments as to cause and effect. We never exhaust the whole mass of conditions which produce the effect. The event never comes, and it never could come, from the abstract selection which we call the cause. We imply the presence of unspecified conditions, but since these are normal, we omit to mention them. Our full statement would run, Given such conditions in relation to the real, *and not counteracted*, and we have the effect. In just the same way, Given certain premises in relation to a mind, not blinded or biassed, and you have the conclusion. And this answer may for the present be taken as sufficient. Logical grounds may be considered as psychical causes, as long as you keep out one supposition. But, if you suppose the intellect of its own free choice to superadd a foreign and irregular factor to the premises before it, then the premises cease to cause the psychical conclusion. It was this grave suspicion which underlay and gave its strength to the

objection;[20] and it will rise again to give us other trouble in the following chapters.

§ 15. And finally we may point to an obvious mistake.[21] You may suppose that the consequent is more concrete than the ground, or the effect more complex than the cause which produces it. These are parallel delusions. If you understand by "conclusion" the whole construction, this is certainly more complex than each of the elements, since it is the union of these separate elements. But if "conclusion" stands for one part of the construction, then not only is the synthesis of the premises *more* concrete than the consequent, but the premises, if taken each by itself, may none be more abstract. So with cause and effect. The effect, if you take it without isolation, has endless connections with other phenomena, and may be said to influence all succeeding history. But then, on the other hand, why should you choose to isolate the cause? That also exists by virtue of relation to the existing universe, and is just as complex as you please to take it. If you were to isolate effects and *not* to isolate causes, you might emulate an achievement of Mr. Spencer,* by a proof *a priori* that history must needs begin with the complex and advance towards the homogeneous. The one demonstration would, logically speaking, be as valid as the other.

§ 16. Let us return from our digressions, and gather the result obtained in this chapter. We have seen that, in order to perceive causation, you must always use reasoning. The cause, as we know it, must be the because. But there we are stopped. We can not assume that the reason, where we have one, is the cause of the consequence. In some cases, no doubt, it does appear as the cause, but in others we can not see how this is possible. And we concluded that no general presumption could be raised. But one thing we could see by anticipation; wherever the mind makes an arbitrary choice, wherever it seems to operate at will (as in distinction, comparison, and again in abstraction), that capricious operation can hardly represent the course of events. And a dire suspicion was then whispered within us. If in inference the conclusion is made what it is by an arbitrary act, how can any such process be true of reality? Our knowledge of the cause will itself be

* See his Essay on *Progress*. The remark in the text is a criticism of the proof as it appears in that Essay.

dragged down in the common ruin of all our reasoning, and in the end we must doubt if there is such a thing as a valid inference.

ADDITIONAL NOTES

[1] In this Chapter the meaning of "cause" is fixed arbitrarily. Causation is taken here as holding only among events and as a law of their sequence. See *Appearance,* Index.

[2] "Energy," "force," "power." See again ibid.

[3] "We should ask in vain." This statement is, I presume, still correct.

[4] "We should find no answer," i.e. no *accepted* answer. I have dealt at length with this difficult problem in the articles referred to in *Appearance,* p. 607.

[5] For the meaning of a "law," see on p. 543 and the Index.

[6] There is an ambiguity which attaches itself to the terms "invariably" and "unconditionally." These may be taken not absolutely but as qualified by "in fact"—as holding, that is, only within the limits of a certain area of facts, and as subject therefore to an unknown x. This ambiguity attaches itself, however, to both of the above terms alike and equally.

[7] "Conditions." See the Index, and cf. *Appearance,* Index.

[8] For a discussion of the subject of this Footnote see once more *Appearance,* Index.

[9] "For, if—repetition." It would be better here to write "had" for "has" and "could" for "can." And cf. the Note on the preceding Chapter, § 16.

[10] "No details." Here (as below) "mere perceived details" would be better. And (lower down) "all those" should be omitted.

[11] "Without any sort of intermediate," i.e. *in this sense.* On Explanation and Mediation see further on § 9. And cf. *Essays,* p. 154.

[12] "Toiled through modern German philosophy." I hope that at this date there is no need to warn the reader that any such claim by the late Mr. Lewes should be ignored. I could say far more than this if it were now desirable.

[13] "Civilization," "Higher culture." I much regret not to have written here "modern urban life," and not to have simply added (what I meant) that a larger proportion of Catholics live outside of large towns. The instance otherwise will serve, because, though, in the case of an individual, you could say that he was first a member of no denomination, and then grew up to become one—this is not what is meant. And obviously Protestantism can also be taken rightly as itself a consequence from a "higher culture," which, far from following, precedes it in time.

On the whole matter the reader should ask himself, first, whether he is prepared to limit explanation to what we call the series of

events which happen. And next, even if he is ready (as I think mistakenly) to do this, he should consider whether, even with this, he is brought to the conclusion against which I have argued. The main question, I think, is What do we mean by a Law? Can even the Laws of Co-existence be all resolved into Laws of Sequence? And, generally, is it the pointing to an intervening event in which all explanation by a Law consists? Where you have things with a certain original nature or even an acquired disposition, and where you explain an event by the reaction of this nature or disposition on an occurring change—how is it possible to take the "law" or "tendency," to which your explanation appeals, as itself always an intermediate occurrence? The whole enquiry as to Explanation will be brought to a point in the answer which we give (or at least are called on to give) to the question, What is a Law?

[14] "A garbled extract," i.e. from the point of view of the Phenomenalist.

[15] "Have actual existence," i.e. as such, and as themselves facts and not mere aspects of fact.

[16] This paragraph contains some inaccuracies. In "of both with B is the cause," for "is" read "must be." And lower down I appear to have wrongly assumed that the construction is the real proof (see on Bk. III. I. II. § 5). But this question is fortunately here irrelevant. As to the two coins, I should have written "The cause so far is unknown. It may, or may not be, the origin from a common die." With regard to the vessel the question should have been put thus, Can we say that the exclusion of the alternative—an exclusion which (as we now know) happened in fact—was what in fact operated in directing the particular voyage?"

[17] "Wherever on the other hand, etc." The alternative here seems faulty. We should write "Wherever on the other hand there is no question of a temporal process of events, or wherever, again, the conclusion comes from something which does not itself make part of the self-development of the inference, but is imported from outside (§ 14)—wherever, e.g. a division, etc."

[18] There is some detail in this section which calls more or less for amendment. (i) In "wholly false" and in "absolute error," the "wholly" and "absolute," though not perhaps indefensible, would be far better omitted. (ii) After "that which the conclusion affirms" should be added "where, that is, it affirms existence." (iii) In "It is not the relation . . . conditions" the division is too absolute. It would be better to add "as existing" after "A to C," and to omit "nothing but," and to substitute, "as such, no existence" for "no kind or reality," since the latter statement is false. On the other hand (lower down), in "partly coincide," the "partly" should remain standing in view of the "grave suspicion" of § 14.

The main point of § 13 is as follows. Every conclusion is a mental occurrence. As that, it is an event and an effect. And the premises, as concerned in producing this event, are therefore, so far, themselves part of the psychical cause. But the psychical existence of the conclusion is not the truth or reality which that conclusion

asserts. And, from the other side, the truth and reality affirmed in and by the inference, taken logically, is not the psychical event of the conclusion, which event has been caused in my mind concurrently and (we may add) incidentally. And, further, that which may vitiate the conclusion, taken as logical, need not impair the sequence of that vicious conclusion as a caused occurrence.

The above distinction, legitimate and necessary in Logic, is, however, in this Section taken too much as a sheer and absolute separation. But the abstraction, which holds good here for the purpose of Logic, possesses no more than a relative validity. There is, generally, no truth without an aspect of existence, however much for our purpose that aspect may be ignored. And, in particular, there is in the end no truth which is not true for a mind, and does not enter from this side into some process of psychical events. Thus a conclusion as to the angles of a triangle is not possible without an aspect of existence here and now as a mental occurrence. And, sundered from this element of its being, its truth in the end can not even be called true.

This inseparable aspect, from which Logic must abstract, demands recognition in Metaphysics. But for Metaphysics to exhibit its necessity and truth in particular and in detail, is, I think, impossible; and I even doubt if in the end we can get to understand what may be called its general "How." The problem of the relation of truth to Reality, and again specially to psychical existence, is, however, far too difficult for discussion in these Notes. See on Bk. III. I. II. § 14, and cf. *Essays*, Index, s. v. *Truth*, and T. E. I.

19 "A possible objection." This objection certainly did not come merely from my own mind, but I am unable now to specify its source.

20 "This grave suspicion," i.e. that in certain inferences what we call the conclusion really comes from an intervention by my arbitrary choice of (cf. § 16). Here it is not the premisses, *plus* the normal activity of a normal mind, which can be said to produce the result. And, if so, the "logical" sequence here not only fails to be identical with the causal process, but can not be said even to coincide with it, at least altogether. For in the causal series is nothing that could regularly answer to mere mental irregularity.

The above statement, however, is wanting in clearness, and we may express ourselves, I think, more correctly as follows. There is no difficulty in principle as to mental irregularity, when viewed as psychical; nor, once more, is there in principle any difficulty as to the coincidence of the psychical and the logical, so long as the logical sequence is a regular consequence from its beginning to its end. But, on the other hand, once admit anything like caprice into the logical sequence, and then, *as logical, that is destroyed;* and hence the question of its correspondence, *as logical,* with anything else disappears. On the subject of arbitrary choice in inference, see the Index, s. v. *Inference,* and T. E. I.

21 Section 15 seems to be really irrelevant here. I wished, I presume, to call attention to Spencer's characteristic mistake.

CHAPTER III

THE VALIDITY OF INFERENCE[1]

§ 1. The title of our chapter, welcome though it be, excites foreboding. We are glad when we see the harbour so near, but the approach brings with it an ultimate risk and a final anxiety. We have escaped some perils, but our safety has perhaps been dearly purchased. In the course, which we have taken, the worst lies at the end, and that end is before us. We shall hardly sail in with vessel unscathed, and with colours flying; and, did fortune consent, we would gladly compromise. We would change all hope of a triumphant entry for the trust that our voyage might not end at sea. We are resigned to shipwreck, if only by any means something may be saved.

The validity of inference has two main senses. When we ask if a process of reasoning is correct, we may have in our mind two different questions. We might ask if in argument we possess a strict counterpart of the nature of things, if our mental operation truly represents any actual process.[2] And this would be the first question. The second would ignore this correspondence with reality. It would content itself with asking if the premises do logically prove the result. And this latter enquiry is the theme we shall discuss in the present chapter. The first and the more difficult we still keep to the end.

§ 2. But, when we have confined the question of our reasoning's validity to the formal consequence of conclusion from premises, we still find ourselves threatened by a double meaning. Our enquiry might be limited to a search for types, or we might consider as well our practical necessities. And the answer, it is possible, might vary with the question. For conceivably our minds are dowered with a form of ideal reasoning, pure and impeccable, while in practice our arguments are tainted with vice. And so to the question Is reasoning valid? we should have to return a double answer. It would be valid so long as you made it to order with conditions that never occur in practice; while each actual inference

might be fatally unsound. We intend to lose sight of this latter enquiry. We do not mean to ask what sound performances of reasoning are practicable, but what types of argument are flawless in themselves, without regard to the question if any one, or no one, can use them in his work.

But, before we enter on our doubtful search, a word of caution must be given to the reader. He must not look for an ultimate solution. In the present chapter, and still more in the next, we abut upon provinces which we dare not enter. It is impossible to free logic from doubt and difficulty, until metaphysics first has cleared up its own mysteries. And so we must come in the end to issues which really lie in the heart of first principles, such issues as we can not pretend to deal with. Our immediate question will therefore not find an unconditional answer. Inference, if valid, in the end must be valid on a certain hypothesis. The conclusion will follow, given a supposition. Thus we can hope for no more than to arrive at *postulates,*[3] assumptions whose truth we can not here scrutinize, but on which our intellects are forced to embark, if they mean to serve us in the voyage of life.

§ 3. Every inference, as we saw, falls into three parts. We have first a *datum,* then comes an operation, and then follows the result. And our question really asks how the last of these is related to the first. What is given appropriates the result of an experiment; and we demand the title on which it proceeds. We enquire how it justifies the taking to itself of this new possession.

For consider, we agreed that the result must be new.[4] If we had nothing fresh we should have no inference. But, if so, what was given us has suffered a change; it is altered and made different, and made different, we must admit, through our mind's operation. And yet in the conclusion this most ominous fact is quietly suppressed. We unblushingly assert that the consequence follows; but we know that it follows since we know who has dragged it. We protest that C is the property of A. How else, when our hands first stole it and then secretly placed it in his house? And the doubt that now rises, and the suspicion that points at us, all start from this ground. If it is you, they murmur, who have *made* the conclusion, then it can not be true that you also have *found* it.

The new attribute does not truly belong to the subject, if your choice and caprice is the bond of their union.

We must begin with a frank and ready admission. If we really did make of our own free will the conclusion which we come to, if the result did not "follow" of itself from the *datum,* but were pushed and thrust on by our arbitrary force; if (to use a perhaps still more grateful metaphor) we did not "draw" the consequence from the bowels of the premises, but inserted a product prepared by ourselves—if we even chose so to influence our subject, that changed by that influence it modified its attributes—then assuredly the process is invalid and vicious. The conclusion in these cases would not come from the premises.[5] It would come from the premises under a condition, and its truth would depend upon that condition. Or, more properly, the premises would be wrongly laid down; for they should have included the action of our minds. And, just as failing one condition the others are powerless, and in no sense are any a cause of the effect, so, failing the element of our arbitrary choice, the premises we assigned are no premises at all. The conclusion, if it comes, is merely precarious; it is hypothetical. It must wait upon chance, and the result that ensues is given but not claimed.

§ 4. If this is agreed on, then the question that remains seems limited to one issue. Is there reasoning where the conclusion really comes from the unhelped premises? Is there any where the truth of the consequence does not rest upon our interference? Let us proceed at once to a particular example.

We will begin with what seems to be the strongest instance. In a synthetical construction without elision, we appear to be free from arbitrary choice. Given A — B B — C, then, by virtue of the common identity B, we perceive A — B — C; and the conclusion seems wholly inherent in the *data.*

But there comes an objection. The process of inference consists in putting the premises together. Of themselves they lie idly apart in the mind, and by themselves they would still remain asunder. It is surely your mind which supplies them with an unity, and which gives them a connection which they never possessed. You are held in this dilemma. If you say, A — B and B — C are not really apart, then you falsify your premises. But if they are apart, then one of two things; they

come together of themselves, or you force them. If you force them, the conclusion is admitted to be false. And they do not come together, since experience shows that they may continue separate, and since their change to union demands something effective which falls outside their discontinuous state. But this agency must lie in the motion of your mind.

Our answer to this charge may begin by rebutting a false assumption. Did the premises change before our eyes into the consequence, it would not follow that *therefore* we changed them. For the premises are held in relation to reality, and reality itself might supply the condition which moved them into union.[6] But, passing by this, let us address ourselves to meet the charge of interference. We may fairly enquire, "If we have interfered, what is it we have done? Have we taken A — B and B — C from the outside and coupled them together? But where is the thong or the chain that restrains them? What glue or what nails have been used to fasten them? And, if their attachment is part of their substance, what is it that we have done to strengthen it?

Our objector might not find an easy rejoinder, and yet we have hardly replied to his difficulty. For assuredly we did something, and that deed was the addition which brought out the consequence. If a change was not made, then we had an illusion; and if passively we stood spectators of a process, then once more we were cheated. And we are fast in the dilemma—If nothing was altered, then there was no inference; but if we altered aught then the inference is vicious. And we admit that we were active.

§ 5. We must meet the dilemma by a saving distinction. We have here nothing to do with the *real* validity of our reasoning process, but solely with its soundness as a logical transition. And hence at present we need to regard our reasoning as simply a change in our way of knowing. But this breaks through the circle which threatened to be fatal; for it shows a possibility which was overlooked. If, by altering *myself*, I so am able to perceive a connection which before was not visible, then my act conditions, not the consequence itself, but my knowledge of that consequence.[7] It goes to make the consequence in my recognition, but stands wholly apart from this truth which I recognize. Though the function of con-

cluding depends upon my intellect, the content concluded may be wholly unhelped, untouched, and self-developed.

And a logical postulate, to which we alluded, assures us that this possibility is fact. Whether rightly or wrongly, all logic assumes that a mere attention, a simple retaining and holding together before the mind's eye, is not an alteration. If the logical function does not touch the content, if it leaves A — B B — C untampered with, then no viewing them at once or one after the other, nor any attention to one of their elements, makes the smallest difference to the truth itself. My vision is affected, but the object is left to its own development.

Thus, in A — B B — C, the identity of B is the bond of construction. If I *made* that identity, I should certainly in that case have manufactured the consequence. And it may be contended that it lies in my choice to see or to be blind, and that hence my recognition does make what it perceives. Against such a contention I can here attempt no further answer. I must simply fall back on the logical postulate, and leave further discussion to metaphysics.

§ 6. But another objection remains to impede us. Though our action is confined to the knowledge of the truth, we are summoned to justify the truth of our knowledge. For the content, which we know, becomes different in the sequel, and it does not appear how truth can thus change.[8] We may say that the premises perhaps are not true; we may confine our scrutiny to the soundness of the consequence; yet the puzzle does not vanish. Though the premises are false the conclusion may be valid; but how if the end contradict the beginning? If the premises are true, they surely would not alter; and if they do alter their first state must be false. But even then the last state will not square with the commencement. It destroys the ground in which it is rooted, and, removing its own base, must abolish itself.

Shall we meet this objection by embracing it wholly? Shall we say that our reasoning is a process of correction; that we start with an erroneous view of the truth, and that the consequence is a necessary emendation, which arises from the error when our reflection illumines it? If so, the conclusion in each valid inference contradicts its own premises. It is no extrane-

ous opposite which removes its contrary, and perishes itself in that common ruin. It is the opposite which appears in the decease of its parent, and presupposes a contrary which disappears into itself. The conclusion abolishes the truth of the premises, since, by internal change, they pass into a product which contradicts them.

This doctrine might stagger the traditional logic, but in the main it would not seriously tend to disturb us. Yet we can not wholly embrace its conclusion. It is true that all inference is a process of correction. It is true that it can not ever leave its starting-point quite unmodified. But it is one thing to say this, and another thing to admit that every valid inference contradicts its own premises. No doubt, if all change were itself contradiction, and if knowledge is changed in the act of reasoning, we could not infer without self-contradiction. But I venture both to doubt the general principle and to discern an error in the special application. I admit that in the premises the terms A and C *appear* separate from each other, and that this appearance is removed in the conclusion. But I can not see that the premises do assert the actual separation of A from C. They fail to affirm their interrelation, but they certainly do not go on to deny it. Thus the judgment, "A and C have no connection," would be made by the transformation of a privative absence into a positive exclusion (p. 117). It would turn a mere psychical matter of fact into a logical judgment with respect to content. The *appearance* of A–B without any C is denied in the conclusion which gives their union; but the judgment A–B was not that appearance, nor is this judgment in any way otherwise denied. It is increased but not abolished. There is nothing abolished but our own false prejudice, that what does not *appear* as the element in a whole is *therefore* independent.

§ 7. In the example, which we have taken, my arbitrary choice does not influence the result. I may choose to attend or not to attend; I may retain and consider, or pass by blindly. And so much as this is left to my caprice.[9] But suppose that I consider, then the premises themselves pass into the result. In what sense my mind co-operates in that passage, is a question of first principles which we can not discuss. But it is clear that my private desire and preference have no part in the issue.

Once resolved to see, I am powerless to alter the object of vision.

If we come next to those inferences which use an elision, and where the result does not stand as the whole A — B — C, but is lessened to A — C, we must speak with more caution. The elimination of B depends upon our choice. We must join A — B — C, but to strike out B is by no means compulsory. If so the conclusion will in part be arbitrary. Is it therefore unsound?

It *may* be unsound. If we ventured or forgot ourselves so far as wholly to ignore the middle, if we stepped from the construction to the absolute assertion of one part of its content, we might make a common and most dangerous mistake. If we intend to set up A — C by itself, we must avow the transition and be ready to justify it. And tacitly to assume the independence of A — C is a logical mistake.

But elision does not need to involve this error. It should mean no more than the assertion of A — C, subject to conditions left unexpressed. Since, A being given, there follows a construction in which we are able to perceive A — C, we may say that A — C is the mediate consequence. Or it follows hypothetically at once, if B becomes implicit and is thrown into the base which underlies the connection (cf. Book I. pp. 88–90). Our assertion is elliptic,[10] but in this case is not vicious. On the other hand it becomes unsound, if we pass from the privative, "I perceive mere A — C," to the exclusive "I *can* not see anything else, and so nothing else but A — C is real."

§ 8. We shall return to this point when we come to discuss the validity of abstraction. But at present we must mark a division in our subject. There are certain reasonings in which, as we see, we do nothing but attend or consider logically. And it is a postulate that such perception does not alter the object. These reasonings may go on to employ elimination, and this addition is arbitrary. But the conclusion is still sound if the addition is recognized. It becomes to that extent hypothetical, and, though elliptic, it may stand; for it does not affirm that *mere* A — C *exists,* but that A — C is *known.*[11]

But, after escaping this first wave, we are met by a rising sea of inferences which all seem arbitrary from first to last.[12]

For I need not *compare,* and I need not *distinguish.* Again neither in Arithmetic nor in Geometry am I compelled to construct or forced to analyze. I now do more than attend to the development of the object. My own hands have interfered, and have procured the experiment which gives the result. And, if so, the conclusion must surely be capricious, or at least must be laid down quite conditionally.

Let us take the instance of free spatial construction. If I move A, B, and C, and arrange them so as to stand in certain relations, I can not proceed to predicate this result of A, B, and C. Hurdles by themselves will not make a sheep-fold, and you can not go straight from the one to the other. The activity of the shepherd must be added to the grounds; it must be supposed and then implied in the consequence. For the shepherd himself does not follow from the hurdles, and we can not regard him as a condition involved in A, B, and C. Hence we must transform our experiment either by adding something to the original *data,* or by recognizing a condition when we state the result. Otherwise that result is palpably vicious. And the doubt may arise if this fatal alternative stops short with our instance of free spatial construction.

§ 9. It threatens to ruin in the first place comparison. For that is a process, and the *data* compared are surely quite passive. Can we say that A and B work out their own likeness, any more than hurdles work into a sheep-fold? Are *they* like? Is it *they* which I see to be similar? Is it not some product of *my work* upon them, and some capricious addition which really owns the predicate? And the same with distinction. Does my process but colour an element which already was there in the premises, or have I added an agent which by combination has produced a new result? If all I know is that something not seen has, by virtue of my act, become plainly visible, by what right do I claim to have simply made visible and not rather to have *made?* Nor will arithmetic escape. For, as we saw long ago, one and one *are* not two; they *become* the integer, and their becoming seems no change that arises in themselves. But, if so, *they* are not the actual subject which appropriates the sequel: our hand is responsible and can not be disowned. And geometry follows to a common doom. Do those wonderful constructions grow out of the *data,*

like branches from a tree? Are those necessary pictures mere sketches of the object? Were we not more right when we likened them to builder's scaffolding, and should we not think here of those diagrams of operations,[13] where we see depicted the hand and the knife? The processes of distinction, comparison, and construction, all show logical presumptions where mistake is ruinous, and where nothing supports the ground which we stand on.

§ 10. And so once more we have to fall back upon a postulate. Metaphysics alone can judge if we are right, but in logic we are forced to assume that some processes do not modify their consequence. We work round the content and do nothing upon it. Thus retention and joint notice were supposed not to influence the object of vision. And here once again we assume that comparison and distinction and synthesis do not touch or alter the content of the given, but simply remove an obstacle to our sight, or aid that sight by artificial reflection. It is not with these as it was with our sheep-fold. The position of the hurdles made the sheep-fold itself, and the act of the shepherd did alter that position. But here it is something in the hurdles themselves, their quality, or their number, or again their magnitude, which *appears* no doubt when the sheep have been folded, but itself can not have been *made* by the shepherd. Apart from correction by the study of first principles, the shepherd must predicate the sequel of the origin.[14] He would not be right, if he inserted an intermediate condition. Assuredly, without his capricious act, he might never have come to *see* the conclusion; but, seen or unseen, the conclusion was still there. The process has but altered an imperfect vision;[15] *his* want of perception has been changed to plenty. It is *he* that has chosen to let in the light; but the object, our logical postulate assures us, was there from the first and there unconditionally. Where we state the mere truth, we are bound to eliminate the middle operation.

And our postulates give us the same right of confidence, when we take an idea and suppose it to be real, or when suggestion of predicates brings out a response on the part of the subject.[16] In these cases once more, though our viewing of the sequel is conditioned by our choice and our arbitrary act,

yet the view, which we perceive, we must take as unconditional. The process once more has not modified the content. It has placed it in experiment and prepared it for observation, but has left its essence unchanged and unbiassed.

§ 11. It is different when we come to the process of *abstraction*.[17] Where we separate ideally one element from the whole, we not only perform an operation on the given. We not only make a leap from the known to the unknown, when we attribute to the given the result of the act, but we also make this venture on our own responsibility. It is a logical instinct that prompts us to the act; but no logical postulate guarantees the outcome. Reasoning by abstraction has a fatal defect.

For how shall we tell, and what justifies our confidence, that our element remains when the rest is removed? We are burnt and we go from this to "Fire burns." We strike out the mass of accompanying detail, and treat the residue as belonging to the real. But who goes surety that the roots are not twisted, that, in cutting between the reality and its detail, we have not severed some fibres of the selected element? If we find that $a - b$ is true *within* x, on what ground do we rest for our desperate leap to the assertion that $a - b$ is true without condition? It is one thing specially to notice a member. It is one thing to say that this member at any rate is certainly here. It is quite another thing to take that member apart, and to assume that, by itself, it remains what it was when it lived in the whole. This fatal confusion between theory and fact, this blind assumption that our intellect's work must always present us with the nature of things, is a special trait of the "Philosophy of Experience." Bad metaphysic supports it against logic and the cry of facts.

§ 12. If we mean to keep clear of a dangerous venture and really to prove the conclusion which we reach, then, unless by way of an elliptical statement,[18] we can not eliminate where we fail to analyze. If you wish to remove one part from a whole, and maintain it away from its original context, you must find what elements constitute that whole, and you must find exactly what each contributes. For you can not tell otherwise what it is you are taking, and how much is left. Your cutting may not merely loose the string of a bundle. It may have utterly

destroyed the connection which maintains the parts in existence. And the result of this is that correct abstraction is guaranteed by nothing save actual experiment. In fact, or ideally, you must divide the whole into certain elements, and you then must make trial with these several factors. You may find that the whole falls asunder into parts, you may find that this whole can be reproduced, when experiment puts the parts together, and that the parts all remain unchanged in the process. You may find that with any arrangement the parts maintain their character, and that the qualities of the arrangements make no difference to that character. And if you were able finally to isolate *a*,[19] you then would see if indeed the consequence were really *b*. Wherever this process is taken as possible, elision and abstraction will demonstrate truths. But elsewhere their result is precarious and doubtful. It suffices to suggest, but it can not prove.

§ 13. If I begin to reason with the integer four, I can divide this integer into separate units, and, by combining these units, I can once more produce the quality of the whole, while every unit remains unchanged. By a number of specific ideal experiments I satisfy myself that the units are indifferent to their junction in this integer, and may be freely treated as independent elements. For example I can show that, first taking one unit and then adding another, I get the integer two, and that I am safe in ignoring and abstracting wholly from the totality four. All this is quite obvious, and the important point is that my abstraction rests on specific experiment. I neglect the given whole and eliminate its detail, because, within my actual experience, I have destroyed that whole, and have seen that the residue will stand without it. If I take two from four, I know that two is left, since I have proved that the integer does not inter-connect the units in such a way as to qualify them. But, failing this experiment, my abstraction might be vicious. In removing one half of the integer four, I might have sapped and ruined the other half.

This is not the place, nor am I sure that it belongs to logic, to discuss the limits of demonstrative proof in the sciences. What logic may hold fast is the assurance that, without *a priori* experiment, arithmetic could not start. And it is certain that soon we arrive at provinces where such

experiment is impossible.[20] In dividing the wholes, if we could divide them, we should modify the parts; and in summing these parts we should not regain the wholes. We are here as powerless to construct the facts *a priori,* as we are to dissect them by ideal analysis. And when these regions are reached, as they very soon are reached, then our logical abstraction becomes a venture, and its result can never amount to proof.

§ 14. I must return once more here to a fashionable error. The idea that, apart from specific experiment external or ideal, you can start with the individual and go on to prove an abstract universal, is wholly erroneous. The so-called "Method of Difference" involves a downright logical mistake. It is subtraction employed where arithmetic is not known to be even possible (cf. Book II. p. 365).

From the given total $AB - df$, by removal of $B - f$, we abstract $A - d$, and we argue that $A - d$ is true of reality. But our reasoning depends on the unwarranted assumption that in $AB - df$, we have nothing but units. Take the simple example, "$2 + 4 - 1$ makes the integer five, and two units apart from that whole integer are two, *therefore* $4 - 1$ has the quality of five, or is at least a part of the cause of that quality."[21] This strict application of the boasted method, *unless you confine its result to the individual instance,* brings forth what to me appears an absurdity. And the reason is obvious. The Method identifies, in the whole and outside it, both B and *f*. And, standing upon the Identity of Indiscernibles, it is so far right. But then it goes on to assume the absence of difference. It takes for granted that A and B make no difference to each other. It takes for granted that *df* is nothing beyond a mere sum. It assumes that the threads, from AB to *df,* neither cross nor are twisted, but run side by side. And this enormous presumption has no sound base. It could be justified by nothing but a specific experiment, ideal or external, which would show that $AB - df$ *is* this bare addition of units.[22] Without this it is precarious, most useful as a tentative means of enquiry, but unsound and imposturous if you take it as proof. We feel tempted to re-christen the Method of Difference as "the method which shuts its eyes to differences."

§ 15. Probability is increased with the number of examples.[23] If to "AB — *df*, B — *f*" you go on to add "AC — *dg*, C — *g*," "AE — *dh*, E — *h*," and "AF — *di*, F — *i*," you approximate towards the certainty of A — *d*. But you *never* can demonstrate; you never can show that *d* follows from A *with any condition*, and still less that, if A were given by itself and unconditioned, the result would be *d*. For you can not presume that, apart from correlatives, A could even exist.

And I venture, in this connection, to raise a doubt which deeply affects some views of first principles. We are sometimes asked, in accents of wonder, how we come to believe that Reality is one. That enquiry is quite reasonable, but in my turn I sometimes feel inclined to wonder what possible ground could assure us of the opposite. For not all of us follow the "School of Experience;" we are not all equipped with an *a priori* principle, which tells us that to every distinction of the mind a division corresponds in the actual world. We some of us still like to start with facts, and still keep up some prejudice for regarding them. And, if so, it is difficult to see what argument from fact could secure our conclusion. For in actual experience we never can find a thing by itself; it is obvious that some context will always be present there. And if, with indefinite variations, the thing remained visible in all our contexts, that could hardly prove that without any context the thing would exist. If we showed that our changes all made no *special* difference to the element, would that tell us that everything contributed nothing whatever and at all? And the doubt that arises is, whether our conclusion does not rest on the vicious abstraction we have noticed; whether, in short, supposing that single elements *were* real by themselves, it would be possible to get to know this truth by anything else than an unsound reasoning.

We saw, indeed, that analysis and abstraction were often legitimate. But then consider the difference of the cases. Quite apart from the fact that arithmetic deals with unreal abstractions,[24] what is it that is shown with respect to the units? Is it proved, or can it be proved, that units are independent of *every* integer? Did we not, on the contrary, merely show their complete indifference to *any particular* integer?

But it is one thing to be free from this or that complex, and another thing to stand entirely absolute. And, if we tried to show that an unit could possibly exist by itself, we should pass from arithmetic to bad metaphysics. For the isolation implies an ideal integer, an invisible whole; and it implies definition by relation to other excluded units. If we recognize these elements our unit is not solitary; if we ignore them we fall into vicious abstraction.

Where analysis is possible, there always remains an implicit condition.[25] And this rises as an obstacle whenever we attempt to raise our result to absolute existence. But where analysis and construction can not be effected, there abstraction is always a hazardous guess, and can never amount to a logical proof. And with this last warning we may leave a most dangerous source of widespread, insidious, and fatal delusion.

§ 16. We may go on to deal with other difficulties. The Disjunctive argument[26] consisted, as we saw, in the passage from a single possible predicate to its assertion as actual (p. 413). This transition depends on a logical postulate, and I do not propose to discuss it farther. It would be easy to raise metaphysical objections, but they would fall beyond the limits of this volume.

When we have once got to a sole remaining possibility, our inference is then to be taken as valid. But how can we be sure that we ever have reached this ground of inference? We saw that, in the end, disjunction depended upon our impotence to find any other predicate. It seemed to rest on the experiment, "I can not otherwise and *therefore* I must." And this process calls up the gravest suspicion. To state and settle the doubts, which it gives rise to, would imply the discussion of some subtle questions that would lead us too far into metaphysics. Omitting these,* we must content ourselves with trying to consider the problem from its logical side.

§ 17. In disjunctive reasoning we have a subject A. This subject possesses a quality x, and x is determined as one of the discrepants a, b, and c. We go from the denial of a and b to the assertion of c; and this process assumes that x is

* In my notes for this chapter[27] I went somewhat more fully into this question, but found I should occupy too much space with questions I was not sure were logical.

exhausted by *a*, *b*, and *c*, and that any other predicate will fall, not outside, but within these areas. But how do we know that *x* is exhausted? How can we tell that no other predicate, such as *d*, is possible? Our inference is ruined unless this condition is fully satisfied.

Now in subordinate reasonings, where we start from and rest upon preconceptions, it is easy to have a complete division. The division is complete because we have taken certain things for granted. But this postulated omniscience, this factitious totality, must come to an end. When we reach those assumptions from which we proceed, we have then to face the general problem, How can we ever exhaust possibilities, and how can we know that they ever are exhausted?

Suppose that, in the end, we are forced to avow that we rest upon impotence, that we are unable to find any other suggestion, and that certainly nothing else will appear. Is not this the admission that we stand on nought but a privative judgment? And is not this foundation hopelessly unsound?

§ 18. There is one way of escape. The rejection of another and opposite predicate may perhaps after all not be based on privation. It may really spring from exclusion by means of a positive attribute. For suppose that our subject has the quality *c*, and that this quality is unseen. The experiment by disjunction might succeed in making us apprehend *c*. It might cause what is latent to turn explicit, while the real ground we possess for the existence of *c* might not lie at all in the process of exhaustion.

To explain—when *a* and *b* are rejected, the base of rejection may not be any defect in A, but rather the presence of *c* which operates although unseen. And this principle goes further. When we ask, Is there anything possible but *c*, it may be once again the presence of *c* which excludes the idea of an opposite alternative. But, if so, our conclusion would be fully guaranteed. We are assured that nothing but *c* is possible, since the attempt to find a discrepant suggestion has made *c* explicit. And, if *c* were not real, we should find ourselves left with a conditional judgment, in which the predicate would deny the subject. But the consequence is that our impotence is *not* the real cause of the conclusion to *c*. It is *c* on the other hand which has caused our impotence.

Its strength does not lie in the weakness of our minds, though the experience of our weakness proves its strength. In other words our knowledge of its presence depends indeed on our failure to banish it, but its covert agency it is which procures our open failure. The essence of our reasoning does not really consist in *tollendo ponere*. Ostensibly *tollens* its exhaustion and elision are a useful show provocative of truth. From a tacit position it works *tollendo*, to attain thereby an explicit *ponere* of this latent quality. It is thus a threatened contradiction which compels our subject to reveal a hidden but virtual pretension.

It is scarcely worth while to add an illustration. I may deny that an actual number can be infinite, not because I am unable to form the idea, but because it contradicts a quality of the subject "actual number." I may be sure that a "Personal Devil" is nothing, not merely because of the absence of reason for belief in his existence, but because he implies a self-contradiction. An immoral agent, who was utterly wicked, would fall outside the sphere of morality; for badness, like goodness, involves a collision, and ceases to exist when you make it absolute.[28]

§ 19. Where this kind of disjunctive inference can be practised, the conclusion it procures is logically certain. For the predicate, which emerges, is not won by exhausting every possible antagonist. The subject has not actually been altered by the choice of our ideal experiment. It remains what it was. Our own eyes are the real subject which has suffered the operative process,[29] but nothing is removed save impediments to vision. If we keep to the limits already laid down, then logic is pledged to bear us unharmed through all logical objections.

We are open to attack from another quarter; for we may fairly be charged with the sin of desertion. The process, which we adopt, may be saved from every assault of the enemy; but what, it may be asked, has become of the disjunction? For this suggestion of an opposite, which leads to reflection on what lay in our minds—this going from the experience of "I can not otherwise" by an inference to the ground of our incapacity—(however sound and however ultimate the process may be) does not seem a *disjunctive* argument at all. Since

the residue is in fact a preconception, since the exhausted alternatives were never possible, the conclusion does not depend on exclusion. It is not in effect the mere assertion of a residual element, and this show and pretence is a hollow form which is simply deceptive.

There is truth in this objection. The disjunctive argument, if you take it seriously, is not the process we have just sketched and defended. This process does appear in the form of disjunction. An exhaustion is the mode in which we clothe it, and the shape which it bears, if you take it as a fashion of opening our eyes. But the exhaustion itself is not that which demonstrates. The possibilities banished were never possible. And the experiment is so far from serving as a ground, that the process consists in its total rejection. But the objection may perhaps find its answer in a doubt.[30] If disjunctive reasoning is not willing to take the place which we have offered it; if it aspires to be more than a road to vision, and a way of reflection which brings the actual ground into light, is it likely to maintain its claim to existence? Is our seeming desertion not a counsel to throw off a character assumed, and that leads to condemnation?

§ 20. For, taken in the guise which it prefers to wear, the disjunctive argument will not bear a trial. Apart from a borrowed assumption of completeness, the ground it stands on is wholly rotten. If it really goes from the absence of *a* and *b* to the presence of *c*, and if it takes this step *because* it has failed to find other possibilities, then it sins against a cardinal logical principle. It treats a mere defect in its knowledge as equivalent to a positive quality in the content. The fact that A, as it now appears, is wanting in *d*, is no proof that A — *d* is a false proposition. You can not identify the subject, as it stands under psychical conditions, with the subject as fully determined by content. You can not in short, by any kind of handling, make a privative judgment become an exclusion (cf. Book I. Chap. III.).

If my reason, for thinking that A — *d* is false, is simply my failure to find *d* in A, then the subject, which I deal with, is the subject as qualified by my mental defects. It is not the mere content A which excludes, but it is A taken together with that stage of ignorance, at which my psychical history has

arrived. But this absence of knowledge does not logically determine the content A. It is an abstinence which reveals no actual quality within the subject; for there can not be virtue where temptation as yet has not happened to assail.

To put the case otherwise, if *d* is not impossible, if it is simply unreal; or, more strictly [31] (since everything unreal is impossible), if *d is not* impossible because, if it were, a quality of the logical content A would be *contradicted*—if *d is* impossible, because otherwise our knowledge of A would be *altered,* and if *this* is the only reason we can give for *d*'s non-existence—then our inference is precarious, its process is unsound, and its conclusion but begged. We may be forced to put up with it, but we must not try to think that logic guarantees it.

§ 21. We may sum the matter so. If, in saying "I must because I can not otherwise," we mean "I must not otherwise because I do thus, and I know that I do thus because I can not do otherwise," then our inference may not bear the name of disjunction, but it is thoroughly sound and faultless in principle. But, if, on the other hand, the essence of our argument is "I must do this, because I do not perceive that I can do aught else," then that argument may not reach a false conclusion, but, considered as a proof, it is thoroughly vicious. And, if this is what we mean by disjunctive reasoning, our process in the end is based on a fallacy.

And this opens the door to a sceptical doubt. Must not both these varieties, if we determine to go back, resolve themselves into cases of the second? Does our proof depend on anything beside the ignoring of another discrepant alternative? This doubt does not cease with the province of disjunction; it attacks the whole system of our judgments and inferences. If all judgment in the end becomes an inference, when reflection suggests an excluded predicate, and returns to the subject from that repulsion—if this, as we saw, is the ultimate inference—does not every judgment in this way become a *vicious* inference? For it either is held for no reason except that it has not been questioned, or, when attempted, it succeeds in keeping its virtue for no other reason than the absence of suggestions fit to corrupt it. And this absence is assuredly the chance of privation. We are forced to admit a theoretical

possibility of our knowledge being otherwise, if our ignorance were less. And, if so, with each predicate, we can not deny the possible existence of unknown alternatives. To dissent is to assume something like omniscience, and to agree is to vitiate every inference.

§ 22. We might reply that, even if we did not merely assume, but really possessed, entire omniscience, we should still by the argument be compelled to doubt and to disbelieve. And this consequence, the legitimate offspring of scepticism, shows features distressingly like credulity. But it is better to attempt a direct refutation. The sceptical doubt, here as elsewhere, will at bottom be discovered not to be sceptical. It assumes a foundation on which it stands to batter down its dogmatic antagonists, and that foundation itself is always uncritical though covert dogmatism. We can see this at once in the present case. We found (Book I. Chap. VII.) that the possible must rest on the real. Possibilities exist in hypothetic judgments, and consist in the assertion that, given some conditions, a subject would certainly possess some attribute. This simple reflection has important results. For if you say that, with every piece of our knowledge, we are bound to admit that it might be otherwise, you assume that with every subject you can frame a valid conditional judgment in which it acquires a discrepant predicate. Thus, given A — *b*, you assume the existence of a possible *c;* and since the pair, A and *b*, are coupled not by virtue of any special attraction, but solely because *b* happened to be there when A was unoccupied, hence the relation A — *b* is itself but possible.

Now the answer is this,[32] that, if your conclusion is true, you either have failed altogether to prove it, or have proved it by means of a false assumption. For you yourself have ignored a possibility. Suppose that your effort, everywhere to find a discrepant suggestion, were somewhere unsuccessful. Suppose that, attempting to make a judgment in which the subject developed a predicate inconsistent with the character already possessed, you somewhere found *your* impotence and the limits of your thought. If you wish to be sceptical, you must cease to ignore this fatal alternative. For seeking a possible quality *c*, incompatible with the present judgment A — *b*, you may end for ever in a blank defect, or for ever arrive at a

c, which *seems* to be discrepant with *b*, but which falls on scrutiny within its area. And, if this is the case, then to doubt A — *b* is presumptuous dogmatism. You can not assert that its opposite is possible, until you are able mentally to represent that opposite.[33]

To doubt where you have but a single idea, to balance opposites where one opposite is lacking, to suppose that the inconceivable is true, would be surely mere forms of one self-delusion. The question at issue turns on the fact of there being these opposites. The real existence of these ultimate doubts, the very possibility of these possibilities is the point where you are met by a flat denial. You can not escape a metaphysical discussion by metaphysical dogmatism in the garb of scepticism. And, whichever way we may decide this question, we certainly can not decide it off-hand by a simple argument *a priori*. We must meet the sceptic by a deeper scepticism. His conclusion, if true, has been merely assumed. Whether right or wrong in the ultimate result, his process has consisted in begging the question at issue between himself and those who dissent from him.

§ 23. The actual question belongs to metaphysics, and we can not attempt to consider it here. A logical enquiry must remain content with a simpler result. If the subject of privation be identified with the true and real subject, then, on that assumption, disjunction is valid. The formal consequence of conclusion from premises is then unimpeachable. But the premise which maintains complete exhaustion is merely precarious.[34] If, on the other hand, we wish for a process which is free from doubt, then, while it assumes the form of disjunction, it must really proceed by exclusive assertion. It must argue from presence and not from defect.

And, with this, the remarks which we are able to offer, may come to an end; and we shall say no more on the formal validity of our types of inference. Dialectical reasoning has not been discussed, but would not present us with new conclusions. Our main result may be so summed up. Arguments, so far as they amount to demonstration, have been found to depend upon logical postulates. It is assumed throughout that some operations do but change our power of perceiving the subject, and leave the subject itself un-

altered. And this holds even where our wilful and arbitrary choice selects the process and procures the result. The gain which the subject appropriates in the end, is here its original and rightful possession; while the loss and the struggle from defect to growth is the lot which falls to our finite intelligence. But these postulates in the end we left unexamined.

§ 24. We have still before us a very grave question. In our final chapter we must ask whether inference is *really* valid; if, that is, beside making good the conclusion, its process has a claim to be true of facts. We may here, and in passing, allude very briefly to another difficulty.[35] We saw that, though our types might all be flawless and formally accurate, we might still be quite unable to use them. The conditions required for a demonstration might never occur in actual practice. Our types might be ideals, visible in heaven, but too far and too pure for human attainment.

We may indicate the principal source of our corruption. What we use in logic is ideal content, and that content, we have seen, can have by itself no mental existence. It must always appear under psychical conditions, and hence comes a continual tendency to error. If we confuse the context with the actual content, we are sure to vitiate the whole logical process. For since we do not know exactly what we have in our hands, what we actually use and what we neglect, we turn a judgment, that should be categorical, into a judgment that depends on a latent condition. The form, in which the conclusion comes out, will depend on the presence of impurity in the agents. Take for instance A — B and B — C as premises, with a result A — C. The construction here depends on the identity of B in both these premises. But suppose that, in the second premise, C is not really connected with B; suppose that it really belongs to Bx, and that we have neglected to notice x. The relation with C will then depend upon the context, while we have assigned it to the bare and simple content B. Thus a condition has crept in and has destroyed our reasoning. And hence to reason rightly demands a purity which is based throughout on elimination. Since we must have identity, and can not but have difference, we depend for our success on preserving the material, while eliding the

irrelevant elements of our premises; and this process is subjected to the risk of error.

§ 25. We can not any further pursue this theme, but may end our chapter with another word against the sceptic. We are bound to admit some degree of probability in favour of the badness of any one inference;[36] and the sceptic once more may urge his objection, If every argument is *probably* false, how can any argument be *certainly* true? But the answer is simple. Considering my reasoning as a number of acts, I conclude that I am fallible throughout the series. But this chance is mere *antecedent* probability. It may become unmeaning when the instance is present and actually before us; as unmeaning as the chances against a die giving six, when the actual throw has been observed. And, if so, the presumption of our fallibility may warrant a general feeling of diffidence; but it can not affect any actual inference which has once been seen to exhibit the type required for demonstration. If *in the present instance* you can show me no ground which justifies doubt, your mere general probability is quite irrelevant.* Whether it is true that in *every* case we have actual cause for hesitation, is a question of fact to be settled by itself. This question of fact, which perhaps underlay the objection, and which has appeared in the answer, can not here be discussed. We must concentrate our thoughts, since we are summoned to encounter our ultimate problem.

* There is a somewhat similar fallacy in Mr. Spencer's *Psychology*, vol. ii. p. 430. You can not argue from the general probability, that a longer argument has more chances of mistake, direct to the conclusion that a short argument must be more trustworthy than a longer one. In order to do this, you must assume besides, that arguments differ in nothing material except their length.

ADDITIONAL NOTES

1 "Validity." For the meaning of this ambiguous term see *Appearance*, Index. We have to distinguish *three* senses here. See Note 2.

2 "Actual process." "Actual" should be "real," or (if we keep to the view more generally recognized in this work) "existing." Further, the terms, "represents" and "correspondence," are am-

biguous. They are taken here as implying identity, together with its appearance in another region or embodiment. And this will be the *first* of our three senses of Validity. The *second* will be "good formally"; and "good practically" will be the *third* sense. "Practical" (see the Index) means here "for working purposes in reasoning." This third sense—in spite of the words "We intend . . . enquiry"—comes up again in § 24.

[3] "Postulates," see the Index. The question as to how far and in what sense Metaphysics also depends upon postulates is not raised here. See *Essays*, pp. 2, 16, 311.

[4] "The result must be new." See on Bk. III. I. II. § 17.

[5] "The premises would be wrongly laid down." This is certainly the case. For (i) a whole beyond the premises is always implied. And (ii) so, again, is our agency. But, on the other hand, this agency is not *merely* ours, nor does it in its sequence involve necessarily our mere choice or arbitrary caprice. See Bk. III. I. II, Notes 7 and 10. Hence, if the subject of the inference is taken in its full sense, i.e. together with its implications, its self-development is intact. See T. E. I, and Index, s. v. *Premises*, and *Inference*.

[6] "Reality itself might supply, etc." This is what it does do, for it is itself an agency in union with mine.

[7] "If by altering myself, etc." The objection to this view is that it destroys the inference. There is now no process of self-development, and hence no real "therefore" or "must." A mere correction of an unaccountable mistake is hardly an inference. See on Bk. III. I. II. § 13, and below, Note 15.

Apart from this, the argument is as follows. If attention does not alter its object (as we postulate), so, more generally, other mental activities need not do this. On Attention see *Essays*, the Index. The reply to the above argument is "If no alteration, then no self-development, and hence no inference." On the "logical postulate" see further Note 15.

[8] In inference does the conclusion necessarily contradict the premises? This result is to my mind in the end unavoidable. (i) If the "premises" are really all that is there at the start, then that is altered in the result; and by the result it is, I should say, contradicted. And (ii) if it is urged that the beginning is denied, not as it is but as it appears (cf. on Bk. III. I. II. § 13), a dilemma awaits us. For (a) the process will still be a self-contradiction, though what contradicts itself will now be no more than an appearance; or (b) there will now be no real process and hence no inference at all. Further (iii), if the "premises" are widened so as to take in all that really is implied at the start, then (as before) either (a) you have included so much that the process, and therefore the inference, disappears; or (b) the end, as I think, still contradicts the beginning. The question in the end is whether the idea of self-development, though necessary for Logic, is, when you insist on a final answer, a consistent idea. Does it, or does it not, depend on an x, which dependence,

so far as we can see, implies that, as such and as itself, the above idea is not real? Cf. T. E. I., and (below) Notes 15 and 32. In this work (the reader is reminded in § 7) I was not attempting to deal with first principles (cf. § 10).

[9] "Is left to my caprice." The real solution of the difficulty here is, while accepting "agency," to distinguish that from "caprice." See Note 5.

[10] "Our assertion is elliptic"—as is all judgment more or less. See T. E. II.

[11] "But that A — C is *known*." The word "known" is ambiguous. It should mean that mere A — C can be taken as true subject to an unexpressed condition.

[12] "A rising sea of inferences." For these see Book III. I. Chap. II, and the added Notes. Cf. also T. E. I. There are two main questions here. (i) How far in each case is the process arbitrary? (ii) How far, and in what sense, is this process the movement of what really is the subject of the inference, and can so deserve to be called self-development?

[13] "Those diagrams, etc.," i.e. in some old books on surgery.

[14] "The shepherd must predicate the sequel." The qualification "here" should be inserted before "must."

[15] "The process—vision." The difficulty which arises here has been noticed already (see Notes 7 and 8). So far as the process is not a necessary development, and hence an alteration, it can not be an inference, though doubtless it may serve as a help in inferring. Every inference is the necessary self-development of a real subject. You may take that subject (i) as real simply, or (ii) as real in the sense of known so far by me, or again (iii) as real in the sense of a mere psychological fact. Hence (iii) your conclusion may be as to something that must happen necessarily in me under certain conditions. I may conclude, for instance, that under such and such conditions I shall perceive a certain result. But here, though we have a genuine inference, we have, so far, no inference with regard to the object itself which I perceive. On the other hand we may go on to arrive at that result by a further process. For we may proceed to reason from what happens in me to what in consequence must be true of the object itself.

Having, for instance, attended to an object I may conclude that the object, as I *now* perceive it, is and was the real object itself; and my inference here is as follows. The development effected by me is assumed to have made no change in the object. And hence either that object has remained unchanged; or, if altered from outside, has been altered by something other than my process. But we can (we think) assume the absence here of any such latter alteration; and therefore, finally, my object is either now what it was, or it has developed itself.

The above assumption is (i) *negative*, so far as it excludes alteration from outside either by my process or by anything else. It is

on the other hand (ii) *positive*, so far as it asserts the persistence or development of the object, and takes its stand on what I have called the Law of Identity (see Index, and *Appearance*, p. 602, and *Essays*, the Index). And on the negative side (to speak only of that here) the character of the inference—so far as we have a genuine inference—will be disjunctive (see on Bk. III. I. II. § 25).

With regard to the truth of the postulates given in the text I can not in any case admit that it is ultimate. These postulates are true only, I should say, in the sense that for certain purposes they can be taken to hold. And we have here (I should further add) really no more than one postulate, though that can be used in various applications.

[16] On Supposition and Suggestion see the Index.

[17] "Abstraction." Cf. Bk. III. I. II. § 23, and see T. E. I and IX.

[18] "Elliptical," and so also "conditional." And after "where we fail to analyze" is to be understood "completely, which is not possible anywhere."

[19] "If you were able finally to isolate," which (we should add) is impossible. No analysis—it does not matter whether the experiment is "ideal" or otherwise—is in the end conclusive if taken as unconditional. All that can thus be shown is that for a certain purpose you may find that you can ignore that whole which everywhere, in some sense, remains still vitally concerned. As for getting units apart from some integer, this is clearly impossible; though for the purpose in hand the integer may of course be put out of sight. Cf. § 15, and see T. E. I and IX. In the following sentence, "Wherever . . . truths," the word "taken" should be emphasized. "Taken as" should be understood here in the sense of "assumed to be."

[20] "We arrive . . . impossible." But it would be an error to take the "*a priori* experiment" as holding good except on the strength of an assumption, and so as subject to conditions. With one exception no possible experiment can give truth which in the end is more than relative. This exception is found in any case where the contrary of the result is inconceivable. And by "inconceivable" I mean that the "other" not only in fact is not found, but that you have no right to regard it as even possible. For, if you know of no field in which this "other" can be taken to fall, and, if you fail to give to it any positive meaning, it is clearly nothing that can be called possible. With the above exception no experiment can give more than relative truth, and the criterion here, as everywhere else, must be found in the idea of system. On the above see further T. E. VII and VIII.

With regard to isolation (cf. § 15) I would repeat that this never exists as the mere positive presence of one single element. There is always present without exception a many in one, felt at least in the mind if not also an object before the mind. Hence isolation must imply the negation of an "other" which actually is also there. And this relation of exclusion must (on my view) take place within and depend on a whole. It is a common fault in Realism and Pluralism

to fail to recognize the above doctrine, even as a view which exists (§ 15). But as to the nature and justification of the particular assumptions used in experiments of various kinds, this is not a topic to be discussed here.

21 "Is at least a part, etc." This conclusion is correct, if you make certain assumptions, which, for a certain purpose, may be justifiable. See T. E. I. But, as the "Method of Difference" leaves out these assumptions, and tries to be absolute and unconditional, it hence falls into grave error. For this Method, cf. Bk. II. II. III. § 13.

22 "A specific experiment" which (once more) is impossible, if taken as unconditional, and which is valid or not, according to the conditions which can or can not properly be assumed, in a case of this or of that character.

23 "Probability, etc." The greater the number of instances in which accompaniments of A are shown with a consequence other than *d*—and the greater the diversity of these instances—the less becomes the chance of an accompaniment of A which is relevant to the production of *d*. This, I presume, is here the formal principle.

24 "Unreal abstractions." By "unreal" I meant here, I presume, "not existing as such." On Arithmetic see Bk. III. I. II, Note 4.

25 "Where analysis . . . condition." Cf. Notes 19 and 20.

26 "Disjunctive Argument." The difficulties connected with this have in the main been dealt with already in the Note on Bk. III. I. II. § 25. Cf. Bk. III. I. IV. § 6. And see T. E. I.

The condemnation of the Disjunctive judgment and inference which follows here is (I may remark at once) conditional on their being taken and used as self-supporting and self-sufficient. It is consistent with the view that a Disjunctive Whole is the form into which our knowledge should (so far as is possible) be brought—however unattainable is this end, and however imperfect must remain the system which has to contain and support our disjunctions.

27 These notes, I believe, are lost. But it is not likely that they contained anything which has not been used in my later writings.

28 "Badness like goodness." Goodness is taken here in the narrowed sense of moral goodness. Further, badness and goodness (taken in any sense) were certainly not intended here to be put on the same level. See my *Ethical Studies*.

29 "Our own eyes, etc." See above, Notes 7 and 15.

30 "But the objection, etc." Yes, but the question still remains whether the process, now described, is an inference at all. See the references in Note 26, and cf. the Notes which follow here.

31 "Since everything . . . impossible." It would have been better to have inserted, after "everything unreal," the words "can be taken as in a sense impossible" (instead of "is"), or to have omitted this parenthesis. See T. E. VII. And after "impossible" it would be well to substitute "in the sense that" for "because."

32 Obviously there is no disjunction where the supposed other possibility is not possible, but is on the other hand self-contradictory

or quite meaningless. For the difference (so far as there is one) between the self-contradictory and the unmeaning, see T. E. VII.

Given A, the claim of a possibility other than A may be excluded in two ways. (i) We may, first, have in our knowledge a field outside of A; and the idea of a something, other than A, which falls within this area of reality, is, so far, a sound idea. Hence an assertion of its exclusion and absence must either in the end rest on an assumption, and will thus be admitted to be, so far, subject to doubt, or else will be grounded in the end on mere privation. But (ii) we may be without the knowledge of any such area outside of A. And in this case the idea of an "other than A" is in the end senseless and is wholly inadmissible. Hence there can be no disjunction here, nor, again, is there any privation, since privation itself depends on a known positive field of reality. What, however, may have been gained here, in and through our futile attempt, is a better perception of A's character. This improved recognition is, however, the result of an increased attention to A, and it involves, in itself, no inference.

I will go on to deal next with the question (raised in the last paragraph of § 20) as to the difference between alteration and contradiction. If a suggestion that A is otherwise does not alter A as we know it, then this suggested "otherwise" is in the end nothing. But, if on the other hand we have an actual idea of an "otherwise," then this must, so far, contradict A, since it is contrary to A, as itself and A stand. But again, further, this idea need not be contrary, but may be accepted as a change of A, if A is taken more widely, or if A and itself are regarded as together qualifying (under some condition) a wider reality. And in this case an "otherwise" that *alters* is an admissible idea. For "Contrary" and "Contradictory" see the Index.

But obviously, where our A is taken as ultimate Reality, the suggestion of an "otherwise" becomes quite untenable. An "otherwise than A," whether as a contrary or as an alteration, is here, alike in either case, no idea at all, but is wholly senseless. Cf. Notes 8 and 15.

[33] "Mentally to represent that opposite." The term "represent" is used here in the widest possible sense.

[34] "Is merely precarious." It is precarious (if I may repeat this) so far as it rests merely on the fact that I do not find something else, something else which on the other hand I can not refuse to call possible. The more, however, our knowledge becomes systematic, the less becomes the area within which this idea of an "otherwise" holds good. But the question as to how large this region of the Universe still remains, is in the end, I think, unanswerable. Absolute knowledge is assured only by the nothingness of anything other than its own positive and, in a sense, "exclusive" self-assertion. Cf. the foregoing Notes, and see T. E. VIII.

[35] The doctrine of § 24, with regard to the risk of error in inference, has been anticipated in Bk. III. I. III. §§ 23, 24, to which a reference should have been given. On this doctrine cf. *Mind*, O. S., No. 47, and

Essays, pp. 362 foll. The main point is that logical thinking is the result of and consists in the exercise of a certain control, and in the subordination of that which, apart from this or some other control, would be mere wandering. And, since any control is naturally liable to lapses, the identity of the subject is thus itself liable to be destroyed and the inference to be broken. The above view belongs, I presume, to that general mode of thought which I adopted. And, as for claiming originality here, such an idea (I may be permitted to add) never so much as occurred to me.

I regret to be forced in this connection to call attention to a statement made by Dr. Schiller (in *Mind*, No. 95, p. 350 note). He allows himself (referring to my *Essays*, p. 368, note) to speak of my "claim to have anticipated Mr. Sidgwick's difficulty about the ambiguity of the middle term," i.e. in the present § 24 of this Chapter. Now, if the reader will turn to the passage in my *Essays*, p. 368, note, he will find no reference made to any writer but myself. And I may add that, as I have almost no acquaintance with Mr. A. Sidgwick's writings, I could not pretend even to know in what his particular difficulty or discovery consists. I will now ask the reader to refer also to the Note on Bk. III. I. VII. § 1 of the present work, and will leave it to him to judge as to the amount of credit to be given to any assertion or suggestion proceeding from Dr. Schiller.

[36] So far as you take an inference simply as this or that inference, there is certainly some probability against it—as so taken. But this antecedent probability itself rests on the assumed certainty of that doctrine on which it is based—where, however, we have again, so far, the same general chance of error. On the other hand, when you take an inference not merely as this or that, but as a concrete individual case, the above abstract probability may be in various degrees reduced or may wholly disappear. Obviously, if there is any case where doubt is not possible, the above probability vanishes, since its foundation is incomparably less secure than is that position which it attacks. And you can not (to speak in general) take some particular assertion by itself, and then argue *a priori* about its degree of probability. Its real probability depends on the amount of its connection with the whole body of your knowledge. See Bosanquet, *K & R*, p. 266; and, on the whole subject of Probability, cf. T. E. VIII.

The reader will notice that in "another word against the sceptic" the reference is not to § 24 but to preceding Sections.

CHAPTER IV

THE VALIDITY OF INFERENCE (*continued*) *[1]

§ 1. In the foregoing chapter we limited the question of our reasoning's validity. We discussed the possibility of getting an inference which amounts to demonstration. We asked whether any conclusion does follow, when the premises are assumed. To this limited question we were able to return an affirmative reply. If we admit certain postulates, then there assuredly are types of necessary reasoning. It may be difficult to practise the rules which they enjoin, but we may say at least that, given the conditions, the consequence *must* follow. And so far, though relying on the strength of postulates, we have succeeded in holding the position which we occupied.

But we now must await a more dangerous attack. Our inference may be valid, if valid is to bear the sense of *conclusive;* the consequence may follow and be true, if the premises are not false. But what shall we answer, when asked if our reasoning is true in reality, and valid of fact throughout all its process? It is not enough to reply that surely it comes out true in the end. For the outset and the journey might both lie in a region of convenient falsehood; and the question, which is pushed and which can no longer be fenced with, directs itself to this fatal weakness. If truth is the ideal counterpart of fact,[2] can we say that the process of our reasoning is truth? Can we venture to assert that our mental operations are the same with any actual process in things? Is the intellectual experiment the parallel of a movement in the real universe? Our reasoning, we know, does answer to the facts,[3] but that is not enough. Can we call it the literal expression of those facts? Is reflection the double of an outward change, that shows feature for feature in an answering element? Or is it an indirect process, which results in a

* Cf. Lotze, *Logik*, Buch III. Kap. 4.

picture, but which, taken in the middle, could not be recognized? We may doubt if the end, when we get it, is a copy; and we may doubt still more if the means is a copying, or in any sense a counterpart.

§ 2. We can not dwell on this question in its ultimate form. We can not decide if an activity, which appears in our reasoning, is one with a force that alters reality.[4] It is not that I think the question improper, but that in this volume it could not be discussed. For the very existence of any force or activity is itself a point which we are not able to assume; and without this assumption, the question we have mentioned would of course have no meaning.

But, if we lay no stress on the question of activity,[5] and confine ourselves mainly to the actual change, the problem in hand may thus be stated. In our reasoning a *datum* suffers alteration; undergoing a change it appropriates the whole, or at least some part of the new result. And does the reality transform itself in unison? Do the facts themselves exhibit alterations parallel with the series that appears in our argument? Is this aways the case, and again, if not always, is it *ever* the case in any possible argument?

§ 3. The result, we have reached, forbids us to accept the first of these alternatives. Where the middle of our process does not answer to the cause, where it is not the reason of the conclusion's existence, but merely the ground which we have for belief in it, in every such case our mental experiment does not even pretend to reproduce fact. The equality of A and of C to B is *our* cause for the judgment "C is equal to A," but we can not suppose that this change in our knowledge[6] has an answering birth *in rerum natura*. The last relation does not spring from the original pair. The result in our minds is no actual result,[7] the change in our minds is no change in things, the mental experiment, if you compare it with the fact, has no existing counterpart at all. If the real world is not far other than it seems, then the course of our ideas, at least in this case, can not possibly be true.

The conclusion does not really result from the function; for if it were not there before, we admit it would be false.[8] On the other hand it can not be given, already and at the start, for in that case we should have no inference at all. But, if

so, then both movement and issuing change are false appearances; they belong to our minds, and are not true of things. This fatal consequence affects all inferences, where the middle does not represent the cause. And then the middle, we may go on to urge, can be wholly capricious. It may arise from nothing but our arbitrary act.

For consider the processes of distinction, comparison, and again abstraction. I need not perform these; I experiment or not, as it happens to please me. But is it possible that whenever I happen to be pleased, the things have somehow changed themselves harmoniously? How frivolous an idea, but how inevitable; and yet once more how wholly indefensible. We have hitherto concluded from our logical postulate (which assured us that our change did not alter fact) that the conclusion was there and came out to be seen. But now we seem confronted with three alternatives.[9] Our actual process may be foreign to reality, and falls outside it in our mental world. Or an actual and answering change has taken place, and the facts are transformed by our caprice. Or lastly the course of things runs parallel by an overruling harmony. Any one of these alternatives seems attended with ruin.

§ 4. (*a*) Suppose first that our arbitrary choice has modified the facts themselves, that no quantities are equal [10] until we have compared them, nor anything different before we have distinguished, and that these functions *make* the object which they contemplate. If so we of course must surrender our postulate, and allow the result to become conditional. The things, if you leave them alone, are *not* equal, since equality depends upon your caprice. But, with this result, we not only give up what before seemed true, but we can not accommodate our view to the facts. Unless the world is quite different from our common beliefs, unless we turn upside down our ideas about reality, we therefore can not accept this first alternative. And if (*b*) we next make trial of the harmony,[11] we find ourselves still immersed in difficulty. For suppose that, when I argue, the world is changed, and a process takes place conformable to my movement, then, unless we think that the world goes by chance, there must be some kind of reason for that change. But the conclusion, as we have it, is then incorrect; for the condition of the process is com-

pletely ignored. We must therefore set down, not A by itself, but $A + x$ as equal to C. But what is this x? If it is other than our act, then once more the things diverge from the course which is taken by our thoughts.

§ 5. "But the x," I shall be told, "though it is not the act of *our* intelligence, is still the function of an understanding. Phenomena are ruled by a reason not mine, and my argument, capricious in regard to its existence, is compelled and subject in respect of its content. If I make it, I must make it on a certain model, and this model is the work, long done or now doing, of an inference precisely the same as mine. This double process of a two-fold mind unlocks the puzzles by which we are enclosed."

I should be sorry to seem to persist in unbelief, but I am compelled once more to repeat the dilemma: If the reality in this way corresponds to logic, then reality itself has been wholly transformed. One may perhaps accustom oneself to regard events as the reasoning sequence of the divine understanding, but it is not so easy to bring under this head any sameness and difference that is thought to exist. We are forced to wonder, if things by themselves are really *not* alike, how God himself can find them the same; or how even God goes on to distinguish them, if they themselves are *not* really different. It is indeed possible here that a distinction might save us, that a sensuous ground, which *is* not different, when taken together with a function of the intellect, produces alike both distinction and difference. And yet this solution is partial, and leaves a worse puzzle behind.

We might perhaps agree that reality is the work of a reasoning mind, but how can we submit to the belief that *my* reasoning must represent reality? How can we suppose that each trivial argument,[12] every wretched illustration that we may have used in these discussions, provided only it be free from flaw, must have its direct counterpart in the nature of things. You may suppose that, whenever we reason, we retrace the solidified logic that is organic in the world; you may believe that a mind, in union with our own, brings out by one process, that to us seems double, the separate sides of existence and truth. But, on either view, we are troubled with

this consequence; every possible piece of mere formal argument, every hypothetical deduction from an idle fancy, all disjunctive and negative modes of demonstration, must each have its parallel counterpart in reality. This consequence may be true, and I will not deny it. But, if true, to me at least it is portentous. Our logic will have secured correspondence with fact,[13] but the facts themselves have been strangely translated.

§ 6. If we mean to keep to a view of reality which is anything like our common ideas (and apart from a system of metaphysics we can not, I think, do anything else) we must come in the end to our third alternative (*c*). We must admit that, although a valid inference in some way must answer to the nature of things, yet at least some reasoning does not show that nature. It exhibits a process essentially different from the actual course of real eixstence. Even if you believe that it comes right in the end, yet throughout its movement, it diverges from the truth. Unless you revolutionize your belief about reality [14] (and perhaps you ought to revolutionize that belief), you can not maintain the strict correspondence of thoughts and of things.

We have seen so far [15] that, at least *sometimes,* our movement does not answer to the course of reality. But we are not allowed to get off with this compromise. We must prepare for a still more fatal sentence. We shall have to see that our mental experiment can *never* represent the actual event. And our conclusions also are threatened with falsehood; for our arguments can not even finish with a truth. Both process and result diverge from given reality. They no doubt may be valid in the sense of serving, they may go near enough to convey the meaning, but neither can be called correct translations.

§ 7. If the result seems strange, it is strange because we have not remembered our account of judgment. It is in a judgment that our reasoning must end; and our natural impulse is to think that ideas are divided and joined like the things which we know. But we saw that this notion could not be verified. Our hypothetical, disjunctive, and negative judgments were none of them found to represent facts. There was

nothing left which, if truth is a copy, could possibly be true, save only the class of categoric judgments. And, seeking for these, we failed wholly to find them, so long as we kept to the series of phenomena. All our ordinary truths, every single affirmation we were able to make about the course of events, turned out in the end to be hypothetical. We tried in vain to get right down to the facts; we were always left with an artificial extract and a fragment got by mutilating things. And this product failed of truth in two ways. It left out details which it ought to have copied, and it depended on details which did not exist. However you took it, it turned out hypothetical, and the elements which it connected lacked actual existence.

§ 8. And this failure was a symptom of our logical disease, a weakness not passing, nor local in its area, but deep-rooted in the system. For judgment and inference, if we are to have them at all, must both be *discursive;* they must work with ideas. But ideas do not exist,[16] and they can not exist, if existence means presence in the series of phenomena. I do not mean merely to press the obvious consequence that a thing can not be in two places at once. I do not mean that ideas, being inside my head, can not also and at once be found outside it. I mean much more than this. Neither outside my head, nor yet inside it, can ideas have existence; for the idea is a content, which, being universal, is no phenomenon. The image in my head exists psychologically, and outside it the fact has particular existence, for they both are events. But the idea does not happen, and it can not possess a place in the series. It is a mutilated content which, as such, can not claim to be more than an adjective. And the functions, that work with these unrealities, can not possibly reproduce the flow of events.

§ 9. This discursive nature of judgment and reasoning is fatal to their claim of copying existence. The process of the inference can never be true, and the result can never represent the fact. We will not waste time on less mortal objections that destroy weaker forms of logical thought, but will at once proceed to the strongest instance. Even where the middle seems to answer to the cause, and the conclusion to exhibit the actual effect, yet even here the movement in the mind is not

the same thing as the movement of facts; the premises can not exhibit the conditions, and the conclusion is very different from the consequence in time.

In our inference we have first the elements apart, then follows their union, with the issuing result. But the elements that occur in the course of phenomena do none of them possess an isolated being. They can not exist every one by itself. Apart from one another they indeed may be found, but none separate and divorced from all other existence. Yet this context, which makes them real as events, and without which they could not appear in the series, is ruthlessly stripped off in our mental experiment. And so, what we use in that ideal synthesis, is nothing but an artificial preparation. We operate with content and not with existence. Our elements are nothing in the world but adjectives, and adjectives whose substantives we fail to state. We indeed treat them as actual, we attribute them all to the ultimate reality; but reality, in the sense in which we have chosen at present to take it (the sense of a being that exists within the series of phenomena), refuses to maintain the existence of our elements. It supports them hypothetically, and on the strength of conditions which we are powerless to fulfil.

§ 10. And as the separation of the elements is not true, so also their union and construction is fictitious. I will not raise again a former objection, though it weighs, I admit, in the adverse scale. If *our* minds did not work by way of construction, the premises would hardly come together of themselves; and can we say that, in the outward movement, there is anything like an answering activity? We will suppose that this question has been answered in a way which favours the claim of our inference to truth. But, be this as it may, the movement in our mind remains discursive, symbolic, and abstract. If the facts come together on just the same principle on which we unite our ideal elements, yet they can not come together in just the same way. The real is divided from the mental union by an insuperable difference. The synthesis of facts may be partly the same as our mental construction; but in the end it diverges, for it always has much that we are not able to represent. We can not exhibit in any experiment that enormous detail of sensuous context, that cloud of particulars

which enfolds the meeting of actual events. We may say indeed that we have the essential; but that plea reiterates the charge brought against us. It is just because we have *merely* the essence, that we have not got a copy of the facts. The essence does not live in the series of events; it is not one thing that exists among others. If reality is the chain of facts that happen, then the essence is a creature which lives only in the thought which has begotten it. It could not be real, and it can not be true. Our construction is as false as our separate premises.

And our conclusion can hardly fare much better. Begotten of falsehood it can not so far be misbegotten, as to show us in the end the features of fact. The parental disease still vitiates its substance. Abstract and symbolic it mutilates phenomena; it can never give us that tissue of relations, it can not portray those entangled fibres, which give life to the presentations of sense. It offers instead an unshaded outline without a background, a remote and colourless extract of ideas, a preparation which everywhere rests on dissection and recalls the knife, a result which can not, if events are reality, be aught but unreal.

§ 11. And no possible logic is exempted from this sentence. If we recur to that type, which we found or fancied, where the real and the logical seemed wholly one, if we come in the end to the Dialectic process,[17] we can not escape the point of the objection. For, if the starting-place we leave were real by itself, if it were actual so as it first comes before us, what sufficient excuse can we plead for leaving it? Why do we correct and supplement it, if it is true? You may say that a parallel alteration and amendment is the actual course of the genuine reality, but I confess to my mind that solution is a failure. If you think that the element, with which you began, was apart by itself in the field of reality and within that vacuum began to develope, then to me the whole question is lost in darkness. But if you admit that a movement took place by virtue of the action of the total system, then surely we must add that, apart and by itself, our element was *not* real. Both its isolation and its subsequent evolution took place within a completed universe,[18] and without that universe would have been nonentities. And, if so, our process is but partially true.

It depends on conditions which it fails to state. It does not answer to the working reality.

Both our starting-place and our process of advance and the provisional goal at which we arrive, are none of them true of the actual world. If you take them by themselves, they can hardly be more than our way of thinking. Our knowledge and reality would never be one, until in our minds the self-conscious Universe were to follow itself throughout all its productions, and comprehend itself in the whole of its detail. And, if that pass were reached and that hope consummated, it is doubtful if then our knowledge would be logical, and if it could still bear the form of a discursive process.[19]

§ 12. It seems hardly worth while to follow any further this line of objection. We may however recall a further point, with which we will bring the discussion to a close. Even if the process of our logical movement seemed ideally to counterfeit the course of phenomena, and to present us with the actual changes of events, yet, if this by any means could be believed, we still fall at the end into hopeless confusion. For if it were not for *our* inferring, we never should have had this series of phenomena. It is not merely the separate strands and fibres of causation, but it is the whole continuity of the total series which is absolutely based on ideal reconstruction. By means of this function, and this function alone, we have connected the past in one line with the present. It is by this alone that we have acquired our knowledge of phenomenal changes; and it is this creation we approach with that series of inferences which attempts to exhibit the threads of causation. But if reality is not to be the work of our reasoning, if it is to lie within mere presentation, then the train of events are themselves not real. They themselves are nothing but a false construction; and a mental sequence that portrayed them truly, as we believe them to exist, would itself be *therefore* untrue to given reality.[20]

For unless we think that phenomena can be real, though they appear to no one, we must hold that the past, *at least as we know it,* has no existence outside reproduction. But we know what is past by synthetical judgments, and they are a function which depends on a ground. This ground is the principle of the Identity of Indiscernibles; it is because the ideal content *seems* the same, that we *therefore* assume it to be

really identical, and identical in spite of change and diversity, despite the difference of its two presentations. But how shall we dare, on the strength of this principle, to treat the ideal as if it were real? What help could we expect from the School of Experience, if our only way to rehabilitate their fact is to violate their most sacred and continuous tradition? Can we safely go from the appearance of sameness, within the mind which compares, to a real identity that connects events? Can we pass from ideal redintegration to actual continuity of fact? If we can not, then forthwith the series of phenomena becomes unreal, and our reasoning which follows the chain is illusory. But, if we can, then at once our idea of reality is quite transformed. Our reasoning will be true because the facts are themselves inferential. We thus either have relinquished the presumption that reality lies in what is *given* to sense, or are compelled to admit that a *serial* reality is itself a bad inference. On either alternative we have ended in confusion.

§ 13. To sum up the result—if reality consists in an actual sequence of sensuous phenomena, then our reasonings are all false because none of them are sensuous. And still more if reality is wholly confined to the given in presentation, then the inferences which try most thoroughly to follow the facts, are therefore and on that account the most false. And reality, it would seem, must be thus confined, since its prolongation is merely ideal. It is lengthened on the strength of the Identity of Indiscernible Content, and it ends in a link which is ideal also. The past can not be restored in its sensuous fulness; the detail is not literally present to the mind. It is judged to be there; but such judgment is nothing but a general indication, a symbolic reference to a context, whose main character and import still survives, but whose complex particulars have perished irrecoverably. And in the end we are forced to hold to one of these conclusions; our reality is *not* that which appears to our senses, or else, if *truth* is to present us with *facts*, our reasonings are every one of them false.

§ 14. It is idle to urge the argument from success. It is useless to reply that the mass of our results is enough to prove the truth of our presumption, and to show that our reasonings are identical with fact. You can not plead that, because

logic works, logic can not be wrong. For the answer is simple. If logic succeeds, then logic is not wrong to work as it does work. It is practically right beyond all suspicion, but for all that it may rest on theoretical error. It must answer to facts so far indeed as to answer our purpose, but withal its assumptions may be downright false, and its principle may turn on unblushing fictions. You can not assert that, if a science goes right, that science is unable to start from false premises. Have not brilliant results in the study of nature been obtained by the help of such working hypotheses as hardly pretended to be more than fictions? And why should not logic, if it shares the success, share also in the falsehood? We should surely be satisfied if discursive necessity, though itself nothing real and not strictly true, runs parallel with reality, and is throughout corresponding to our practical needs.[21]

§ 15. For this seems the dilemma to which we are brought. If we keep to the ordinary belief as to fact, or to anything that is like that ordinary view, then *either* our account of the nature both of judgment and reasoning must be radically wrong, *or else* these processes are no proper counterpart of the accepted reality.[22] We can not at the end of these toilsome marches accept the failure of our whole expedition; and we are led to seek for a place of provisional rest in the second alternative. And perhaps it is not our reasoning that will suffer a loss of dignity. Why should not that view, which finds reality within the series of temporal events, be itself degraded to the rank of an illusion? Why should not the result of the deepest philosophies after all be the truth, and our sensuous presentment[23] be misrepresentation that can not give fact? In this case, if our logic diverged from the given, it perhaps after all has been wiser than it knew of. Unawares it has followed the hidden reality, and against itself has throughout been true.

Possibly this may be, and, if so, an old dream would gain fulfilment. But too probably, again at this final moment, a rival alternative[24] might shatter our hopes. Although the reality is, for certain and assuredly, no series of phenomena, may it not still be something other than thought, or contain at the least an alien element? Then, if so, this genuine fact, when we found it, would remain out of oneness[25] with discursive intelligence, or intelligence altogether. Our logic after

all may turn out to be false, if truth means complete identity with the real, or implies an accurate unfalsified copy.

§ 16. But what is it guarantees this presumed identity of truth and fact? We have an instinct, no doubt, that leads us to believe in it, but our instincts, if they can not be in error, may at least be mistranslated and misunderstood. And here we seem placed between rival promptings, that contend for mastery over our reason. It is an old preconception that reality and truth must contain the same movement of a single content that, by itself not intellectual, then doubles itself in the glass of reflection. On the other hand it is a certain result that our intellect and the movement of our intellect's content is abstract and discursive, a mere essence distilled from our senses' abundance. And this certainty has inspired an opposite conclusion. Since the rational and the real in truth must be one, and since these vital essences are the life of our reason, then, despite of seeming, the reality too must consist and must live in them. If the real becomes truth, then so without doubt the truth must be real.

In the face of these promptings, I must venture to doubt whether *both* have not branched from one stem of deceit, whether truth, if that stands for the work of the intellect, is ever precisely identical[26] with fact, or claims in the end to possess such identity. To the arguments urged by the reason, and which demonstrate that an element which is not intelligible is nothing, I possibly might not find an intelligible reply. But I comfort my mind with the thought that if myself, when most truly myself, were pure intelligence, I at least am not likely to survive the discovery, or be myself when I wake from a pleasant delusion. And perhaps it may stand with the philosopher's reason, as it stood with the sculptor who moulded the lion. When in the reason's philosophy the rational appears dominant and sole possessor of the world, we can only wonder what place would be left to it, if the element excluded might break through the charm of the magic circle, and, without growing rational, could find expression. Such an idea may be senseless, and such a thought may contradict itself, but it serves to give voice to an obstinate instinct. Unless thought stands for something that falls beyond mere intelligence, if "thinking" is not used with some strange implication that never was part of the

meaning of the word, a lingering scruple still forbids us to believe that reality can ever be purely rational.[27] It may come from a failure in my metaphysics, or from a weakness of the flesh which continues to blind me, but the notion that existence [28] could be the same as understanding strikes as cold and ghost-like as the dreariest materialism. That the glory of this world in the end is appearance leaves the world more glorious, if we feel it is a show of some fuller splendour; but the sensuous curtain is a deception and a cheat, if it hides some colourless movement of atoms, some spectral woof of impalpable abstractions, or unearthly ballet of bloodless categories. Though dragged to such conclusions, we can not embrace them. Our principles may be true, but they are not reality. They no more *make* that Whole which commands our devotion, than some shredded dissection of human tatters *is* that warm and breathing beauty of flesh which our hearts found delightful.

§ 17. But be this as it may, one result is most certain. If these pages have not erred from beginning to end, there is at least one thing which we are safe in rejecting. No cheap and easy Monism can stand before an enquiry into logic. The parallel series of sense and of thought, phenomena presented by simple observation and reasoning that retraces the chain of presentations, may both be banished to the region of illusions. If the string of appearances could possibly appear, if conceivably their sequence could be given as fact, yet assuredly logic could never reproduce them, or supply us with a truthful counterpart and copy. The desire to comprehend our Universe as the double outgrowth and revelation of a single principle, depends on a genuine impulse of philosophy. It will hardly be fufilled without patience and criticism, and never if we start with a blind acquiescence in the coarsest prejudices of popular thought.

ADDITIONAL NOTES

[1] The attempt, made at times in this work for the sake of convenience (see on Bk. I. II. § 4), to identify reality with the series of facts, and truth with copying—was, I think, misjudged. It arose from my wish to limit the subject, and to avoid metaphysics, since, as is stated in the Preface, I was not prepared there to give a final answer. But the result of this half-hearted attempt was an inconsistency, which

in this Chapter is admitted. The "real world," as the series of facts in time and space, is neither a given presented fact, nor is it a consistent construction. And obviously it can not be taken as ultimate Reality. Hence the "actual process in things," as identified with what is real, depends on an assumption which more or less is arbitrary.

On the other hand the reader was warned, as I thought, sufficiently, that this view of reality, as the "real world" of Common Sense which is copied in truth, was not accepted by myself. And I will now point to warnings in this Chapter which some critics appear to have overlooked. The reader is referred to § 3, "If . . . seems," § 4, "Unless . . . reality," § 6, "If . . . ideas," and (ibid.) "Unless . . . reality," § 9, "But reality . . . take it," § 10, "If reality . . . happen," and § 15, "If . . . fact."

[2] "Truth the ideal counterpart of fact." I think that (notwithstanding the last words of this Section) "counterpart" is used here throughout in the sense of "copy" or facsimile, and not anywhere in the sense of "complement." It seems to signify here "the same process and result, present in another piece of reality, and differing only as an exact copy may differ from its original." On the doctrine of truth as copying see *Essays,* Chap. V.

[3] "Does answer to the facts," i.e. does in a sense correspond. "Correspondence" is of course an ambiguous term, but it may be taken as the keeping, as to sameness with the original, near enough to work or "serve," and so at once to answer our purpose while answering to the facts (§ 6). See Index, s. v. *Truth.* Everywhere, in order to exist and to reach its end, correspondence must imply *some* identity, though *how much* is a question not discussed here. For "correspondence" see further *Essays,* pp. 118-20.

[4] "Is one with a force." The expression "one with" is ambiguous (cf. Note 25). Two things can be in one, and so have an identity, while at the same time they may differ greatly. But far more than that was meant here.

[5] "But if we lay no stress, etc." As, however, there is verifiable activity on our side, we can hardly get rid of the problem by leaving the presence of activity on the other side doubtful. The true answer is that there is one joint activity on both sides. See T. E. I.

[6] "That this change in our knowledge has, etc." The word "always" should here be added after "has," and, again, after "does not."

[7] "Actual result." "Actual" means here "in the series of events," and for "things" we should substitute "the things that are its object."

[8] "We admit it would be false." After "admit" insert "that, at least in some cases." The argument here is as follows. If the inference is not true of reality, it is not true at all. But, if it is true of reality, then its change and its whole process belongs to the reality, and this—if reality is the world of Common Sense—is, at least in some cases, false.

Then, further, the fact of the inference depends on my caprice.

And, though you may reply that this fact (whatever its origin) can be, and is (according to a postulate), taken as making, at least in some cases, no difference to the real things—yet this answer is not enough. For it lies open to the fatal objection that, if and so far as there is no change, there is no inference at all. Cf. the Notes on Bk. III. II. III. §§ 6 and 10. And for the question as to arbitrariness and caprice, see on Bk. III. I. II. § 6. For the "postulate" see Index, s. v. *Postulate*.

[9] "Three alternatives." The reader will note that these are discussed in a different order, the first being taken last.

[10] "Suppose, etc." It would be better to write here "that the quantities need not be equal, etc."; and, for "nor any thing," to write "nor the things."

[11] "The Harmony." The argument here may be put as follows. On the above hypothesis the causation on the real side must include a condition answering to the condition of the change on the mental side. But the real world of Common Sense either does not include such a condition, and so the parallel breaks down. Or, if such a condition is included in the "real world," it threatens now to be left out on the mental side, because it must, as present in such a "real world," be taken as something which diverges from your act. Further, if you suppose at the back of the "real world" a Mind, that will not help you, unless you credit this Mind with any and every movement of your own mind—so long only as that is logical. But, with this, you have not only perhaps upset your view of the Mind, but are also now in conflict with the Common Sense view as to the course of the "real world."

The words (at the end of § 4), "If it is other than our act," were, I think, meant to offer the following dilemma. *Either,* to make part of the "real world" (*as we are taking that*), the x must be so other than our act as to diverge from it; *or else* we have to accept a paradox which is too monstrous to be entertained, at least in Logic.

[12] "Each trivial argument, etc." The view which we are discussing might reply that the triviality falls merely in the fact of my selection, and not in the arguments themselves. But the difficulty remains that, if the Mind does not reason throughout as I reason, the parallel is broken; and, if it does so reason, then, at least in certain cases, its movement diverges from that of our "real world." And, if you modify your view of the Mind, then, though it may be now the Reality of each side of your parallel Harmony, neither of these sides will now, as such, any longer be finally real. On the point as to triviality, see T. E. I and VI.

[13] "Correspondence with fact." "Correspondence" is not to be taken here merely in the widest sense. See Note 3.

[14] "Unless you revolutionize." See Note 1.

[15] "We have seen so far, etc." The argument here makes a fresh start and becomes general, as follows. Not only where the middle does not answer to a cause, but everywhere else inference diverges

from "fact." And inference must in principle so diverge, because it is discursive and consists in an ideal process. Now an idea, as an idea, is not an event, and an ideal process of content is not itself a sequence of events—though on its psychical side it may, or rather must, imply such a sequence. Thus, as ideal, an inference leaves out the detail which makes facts what they are, and again it depends on conditions which it can not say exist actually in the facts. Hence, as a process, it is not the same as any process which is "real."

The reader may notice here the absence of any direct reference to inference so far as its character is intuitive. Certainly at this time I was well acquainted with the claim of the "intuitive understanding" or "intellectual perception," having been some years before struck by what Schopenhauer, especially, has urged on this head. I should perhaps have contented myself with the remark that, so far as we fail here to end in a judgment, such intuition falls outside Logic; and that, otherwise, in its conclusion it must diverge from fact as given (see the last sentence of § 11). And for the purpose in hand this remark perhaps is enough. The subject in any case is too large for me to attempt here to deal with it in passing.

[16] "Ideas do not exist," and (lower down) "the idea does not happen." "Ideas" and "idea" should be here qualified by "as such."

[17] See the Index, s. v. *Dialectical.*

The argument, in § 11, is as follows. No process which starts with isolated elements and developes itself from that basis, can answer to reality. For it ignores the Whole, apart from which its elements and their process are unreal and untrue. The above argument, however valid, appears no longer to concern itself with what is "real" for Common Sense.

[18] "Completed universe." If "completed" is to be pressed, then *no* process could be true. But I doubt as to more than "complete" being meant here.

[19] "And if that pass . . . process." The reader will see that what was already here in my mind as Reality, was some form of experience higher than and beyond any discursive process, or even any process which can be called merely intellectual. See Note 24.

[20] The view of reality as the course of phenomena is here no longer, even for the sake of argument, taken as true. It is now, on the contrary, argued to be false. If the real is what is "given," then the phenomenal series, being not given, is therefore unreal. And hence, if our logic *did* copy it, that would prove our logic to be false. And, as to our logic copying the "given" itself, that is obviously impossible.

[21] "Practical," "practically." These terms are of course ambiguous. See the Index, and the Note on Bk. III. I. VII. § 7. I should say that in this Section they refer merely to theorizing as put into practice, and recall the "convenient falsehood," of § 1, and the "valid in the sense of serving," of § 6.

[22] "Accepted reality," i.e. the "real world" of Common Sense.

[23] "Sensuous presentment, and (in the next sentence) "the given," are used here to cover both what is actually given and also the "real world" of Common Sense.

[24] "A rival alternative." This would consist in the fact that Reality is still other than thought, at least so far as to involve a difference between the two not reducible to mere appearance in diverse media. We might have, therefore, a fundamental identity, underlying both sides, and a demand on each side for the complete and explicit realization of this identity. And yet, notwithstanding this demand, enough difference might be left to make truth, even at its best, not wholly true, because still in part unreal. The ideal of truth might thus still be left unrealized and unrealizable.

[25] "Out of oneness" is ambiguous. Cf. Note 4. It means here identity, either as absence of difference, or as the presence of only so much difference as is involved in the existence and appearance in two diverse media or regions. The above is also what "complete identity" seems to stand for here. Cf. Note 26.

The solution of the above problem I did not attempt in the present work. But later, in my *Appearance* and *Essays,* I tried to deal with the whole matter. The answer which I gave is briefly this, that, while Reality is Experience, thought and truth are merely one aspect of the whole Universe. This one-sided being—like all other partial appearances—is dimly aware of its own one-sidedness, so as not to be content with itself so long as it remains but partial; while, on the other side, unless partial, this one-sided being must disappear, as itself and as such. But, on the other hand, any "reality" which excludes thought is no less one-sided, and, offered as such, is itself no more than an unreal abstraction. For further explanation the reader must be referred to the two volumes just mentioned.

[26] "Precisely identical with fact." "Precisely" is here emphatic. It means the presence of "complete identity" as defined above in Note 25.

[27] "Purely rational." "Purely" is here emphatic.

[28] "Existence" is taken here widely in the sense of "reality."

TERMINAL ESSAYS

ESSAY I

ON INFERENCE

In treating of inference, judgment and ideas, whatever order we adopt has its own disadvantage (p. 641). If something like inference is everywhere the concrete fact, then simple judgment, and still more again mere ideas, are unreal abstractions. And hence, when we start from these distinguished aspects, and go on to build on them as fundamental and independent elements, our error seldom fails to have dangerous results. On the other hand, if we attempt to enter first on the one actual and entire fact, another trouble awaits us. In order to understand this whole we are led to make use of distinctions, the sense of which seems to depend on a previous enquiry. Hence in logic no one order of discussion is either necessary or excluded. But, however that may be, I am about to begin here with some remarks on inference.

Inference being a process, I will state at once what I take as its essential nature. This may be set down as the ideal self-developement of an object. And, starting with this, I will go on to show how the one main type appears in various kinds of reasoning. Further with each of these kinds I will point out the failure and the shortcoming that is involved in each. Everywhere inference, I shall argue, must be more or less defective, and, since logic must be abstract, the defect, I shall go on to urge, is in principle irremovable. I must dwell on our inability in logic to take account of the psychical aspect inseparable from all thinking, and, in connection with this, will remark on the relation of logic to psychology. Passing on I will deal next with the question as to how far all inference is arbitrary, and again how far it is unreal. Its reality, I shall contend, is genuine, but on the other hand that reality is relative only. Every inference, I shall further point out, is

in principle fallible, and there is no remedy to be found in any search for Forms of reasoning. The Criterion, it follows, is to be found not here but elsewhere, and I will conclude by remarking on the true aim and purpose of logic.

I. In attempting here to state briefly what I take to be the nature of Inference I am forced to assert dogmatically what I myself have been led to accept. (a) Every inference is the ideal self-development of a given object taken as real. The inference is "necessary" in the sense that the real object, and not something else, throughout developes its proper self, and so compels or repels whatever extraneous matter is hostile or irrelevant. And the inference is "universal," not because it has got to be made by more than one person or to occur more than once. It is universal in the sense that it has an essence as opposed to a particular accompaniment of more or less irrelevant detail. Every inference is, in other words, something beyond its "this," "here," and "now." It contains a "reason why," a "principle," a "because," and a "must." As against the resistance of the irrelevant or hostile, we have seen that its self-development may entail and may show the character of compulsion.

(b) The given object is an ideal content before us, taken to be real as being in one with Reality, the real Universe. And our inference, to retain its unity and so in short to be an inference, must, further, remain throughout within the limits of its special object. But what in any particular case this object is, and how its limits really are defined, cannot be taken as appearing in those forms of language which serve as its expression. The above question (to which I shall return) can be answered only by an examination of the inference itself, in and with its individual meaning and purpose.

(c) The inference, if it is to remain an inference, must not cease to be ideal. Its goal and the conclusion in which it ends must still offer itself as a truth and as a judgment about its object. Where in inferring we have been led to perceive a new fact, or where our conclusion appears as or in what may be called an intuition, we have, so far here, something less or more than the inference itself. We may have an object which, though itself more than an idea, is used

as the vehicle of an idea which expresses and subserves our judgment. Or, again, we may have a process terminating in a result which, if on the one side it contains a judgment and inference, is itself on the other side something more concrete and beyond their mere truth. But on this point I will enlarge later when dealing with Judgment (pp. 626–7).

(d) I have now to lay stress on what perhaps may be called the essential puzzle of inference. I refer to the problem involved when, here or anywhere, we speak of self-development. If, on the one hand, the object does not advance beyond its beginning, there clearly is no inference. But, on the other hand, if the object passes beyond what is itself, the inference is destroyed. Its progress and every step in its advance is necessary, since apart from a continuous "must" and an unfailing "because" we have failed to infer. And yet the inference is ruined if anywhere we pass beyond the limits of our given object. There is, I urge, no way by which to avoid this difficulty, when once we have recognized the fact of self-development or evolution.

To my mind this problem cannot in the end be fully resolved. I can not, that is, take self-development to be quite real, as such, nor again do I see how in detail it can be transformed and made good in the whole. But this ultimate question is a matter with which, on my view, logic is not concerned. Logic, like other special sciences, neither can struggle, nor should it attempt to struggle with final difficulties. It has a right on the other side to use whatever ideas it may find that its purpose requires, and to use these ideas without any show of further justification. And indubitably, I would add, logic must accept and must even emphasize the above idea of self-development. And, frankly identifying itself with this idea, it must make explicit, and must develope some assumptions involved in its use. Logic, I repeat, is powerless to justify these assumptions, and the ultimate difficulties which they entail it ought not even to consider. But how far, even while ignoring these, logic can solve its own inevitable puzzle is a question here to be asked.

(e) The general solution of the problem raised by the essence of inference is found, I think, so far as logic is concerned, in the double nature of the object. Every inference,

we saw, both starts with and is confined to a special object. Now this object, like all objects, is taken, we may say, as referred to Reality, the real Universe; or, to speak more correctly, the object is taken as in one with this Reality. Hence the object not only is itself, but is also contained as an element in a whole; and it *is* itself, we must add, only as being so contained.* And the difference of the object from, and its essential identity with a whole beyond itself—a whole which logic takes as a system both ideal and real—is the key (so far as logic is concerned) to this puzzle of self-development. On the one side the special object advances to a result beyond the beginning, and yet its progress throughout is nothing beyond the intrinsic development of its proper being. For that which mediates and necessitates its advance is implied within its own self.

(f) Logic in a word assumes that *Implication* exists, and that implication, where genuine, is also real. It assumes the reality of an ideal Universe, and of subordinate wholes and systems within this Universe. In such unities the elements are not conjoined by external chance or fate, but each belongs to its whole intrinsically, that is, each because of itself. We have here no mere juxtaposition, due to and because of something else, where the elements themselves are left unaffected. In any such fictitious world, nothing in the end makes or could make, a difference to anything. And whatever is asserted, so far as asserted, never itself is or belongs to anything, but, so far, remains confined to something else. The opposite of a scheme so fantastic, if in its own place perhaps useful, is assumed by logic, wherever and so far as in inference logic demands self-development, and recognizes the reality of implication.

Hence (to proceed), where you have a system, you can, starting at a given point within the system, develope this by a necessity which is the real intrinsic nature of your beginning. The necessity belongs to your special object itself, not although but because it is at the same time beyond your object, and because it qualifies at once that object and the whole system in which the object has its place. And, while the above assumption is, perhaps, in the end indefensible, it is here,

* This point is further dealt with hereafter. Cf. also Essay X.

I submit, that logic has to find an answer to its inherent puzzle of self-development.

(g) But even on the above assumption an answer is not easily found. For what precisely, with each particular inference, are we to call "given" in the selected object? And how much precisely, though implied in the inference as necessary, is *not* stated and given? The conclusion (this seems certain) everywhere depends on the individual whole, but that special whole seems in varying degrees to be used unconsciously. And the doubt is whether the whole can, everywhere or anywhere, be made visible, or has, at times or even always, to remain more or less implicit. The so-called "premises" by themselves certainly never are all that is really required for the conclusion. And the question is whether in logic what is really presupposed for each inference, always, or even ever, admits of a complete statement, and so avoids the implication of an unknown condition. And with this arises a grounded doubt as to how far in logic the claim of logic is made good. Can any conclusion in the end fulfil its essential destiny, and realize its own ideal of genuine self-development? We shall perceive this great difficulty perhaps more clearly when we have examined in detail some various types of inference. I cannot, I regret, offer a collection which is complete.

II. I will take first (a) the inference used in what has been called the Dialectical Method. Without asking the reader to admit that such reasoning is really possible, it may be instructive to ask how nearly it comes to realizing the ideal of all inference. The only explicit premise which we have here, is the object, some distinguished content set before us. What, on the other hand, is implied is the entire Reality, as an ideal systematic Whole. Every member in this system is united positively and negatively with all the rest, both of itself and through the Whole; and all the elements are inter-connected in such a way that, given any one as your object, this one developes itself through a series of more and more inclusive totalities until it becomes and contains the entire system. The inference here may be called arbitrary, so far as the point where you happen to begin, and so far again as the result—

where, short of the whole, you are pleased to stop—are taken to depend on your choice. And further (it is perhaps the same thing) the inference is defective, in so far as, like all inference, it is abstract, and fails to include all that is involved in its own existence. But, subject to these reservations, and given the reality of an ideal system such as is described above, together with the reality of the internal process that moves within it, we have, I think, attained in Dialectic to the ideal of inference as self-development.

(b) We may go on to consider next the claim of Disjunctive reasoning.* We have here a whole, Ra Rb, and, from the removal or assertion of one part of this whole, we arrive at the assertion or exclusion of the other. The whole, R, is understood as being set completely out in its members, and the members are taken as interrelated through the whole in a certain manner. And, with this, it may be said that the ideal of inference has been realized, since the premises before us imply and themselves have moved to the conclusion. The connected whole on one side, and our own beginning with one part of that whole, are both (it may be urged) contained in the premises. And here, since all that is arbitrary has been already included, the premises, as our object, do really and truly develope themselves into the conclusion.

We must however not forget that the process of the inference must somehow, itself also, be taken as real. And we must recall that here again, as with every other inference, we are abstracting from the aspect of psychical fact. But, even apart from this, there is a defect in Disjunction which seems fatal to its claim, a defect which appears to be irremovable. The Disjunctive inference in short involves a breach of continuity. It surely cannot be true that mere R divides itself for no reason into Ra and Rb, and that for no reason a and b are connected disjunctively within R. Surely the assertion that *mere* R is a, or again that R *by itself* is b, would be self-contradictory. Hence in our inference is implied an unknown condition, an x. It is not *mere* Ra, but it is really R(x)a which excludes b, and again it really is R(x) which, excluding a, is b. And this x, essential to our premises, has not been included in them. And, being unknown, it, for anything

*For this see further the Notes on pp. 121 foll. and 128.

that we know, falls outside R itself. But, if so, our inference is broken, and, taken as self-development, has been ruined by the intrusion of an external and foreign body.

(c) Coming next to Syllogistic inference I will simplify the question by confining myself here to an ordinary positive syllogism. In this we assume, as real, a world of attributes arranged so, that, when one of them is taken in or as a special subject, that subject interconnects whatever we can take it to own. Hence the inference depends on a whole, and that whole, as a whole, is not given in the mere "premises," nor again, on the other hand, is it merely made by us. The point from which we choose to start, and the selection of the special universe involved, may no doubt be called arbitrary. But the advance to the conclusion, and the being of the totality in and through which the advance takes place, are at once necessary and real. On the other hand, even when this assumption is made, the inference still will be defective. Like all other inferences it will fall short of reality so far as it is abstract. And again further it will be defective, so far as what should be its implications are merely external. Sokrates (for example) is a man, and, because a man, is therefore mortal. Sokrates, that is, developes himself into mortal because he is in one with a whole which owns certain connections. But, so far as his unity with this whole, and, so far as any other of the required connections is not really intrinsic—so far, that is, as anywhere externality, and an unknown x, comes in—the connection is lowered to a mere conjunction. And, wherever this takes place, the inference has failed. It has fallen short of the essential type of self-development.

(d) For the sake of brevity I will omit the question as to the nature of the inferences used in Equational Logic and again in Recognition, and will go on at once to consider Arithmetic. The subject of mathematical reasoning as a whole I am, most unwillingly, forced to neglect; and even what follows here may perhaps be set on one side as the blind intrusion of a barbarian. I will offer it, however, for what it may be worth.

In the first place, if the processes and conclusions of Arithmetic were merely made by me, there would be no self-development and no inference. But, dismissing this, we

seem forced to assume that the operation on the data, and the consequent result, are possible only because of a real whole—a system in which these data are real, and on the nature of which they and the operation vitally depend. It is only the unity of the given object or objects with a universe of this kind which can allow the process to be a genuine self-development and so an inference. We have therefore, in the first place, a whole which is real; but, in the second place, we must ask if this whole really and actually moves. Such a question apparently has to be answered by both No and Yes.

On the one side Arithmetic seems to assume a real system in which the relations of every possible unit and integer *are*. We have here a whole which is the actual complete arrangement of all possible units and integers, so that, in and by this, their identities and differences are visible and grounded. Now, can we reconcile with such a system the idea of a changing world of number which moves by certain ways of its own to certain results—but which world, on the other hand, itself *is not* these processes or results except where and when they occur? And, if we cannot reconcile these conflicting aspects, what escape is left? It is idle here (as elsewhere) to seek to confine the operation to myself, to urge that, apart from myself, nothing happens, and that all the change is in and to the mere visibility of the unchanging. For, with this, the object itself (it is clear) does not itself move at all; and hence there here can be no inference because no self-development of the object.

Our best course, therefore, is, perhaps, to assume as real for Arithmetic a world of number which both does and does not move. It combines both these features, that is, in a manner which, at least in Arithmetic, we do not understand, and which, at least, as we have it there, seems self-contradictory.

Arithmetic appears to require the following postulates. Every unit can be taken as the integer of an indefinite number of units. Every integer can be taken as one among an indefinite number of units in a larger integer. Hence every integer is actually contained in a larger integer, and actually contains all its own smaller integers. And every unit can be taken as a unit, and actually is a unit, in a special integer, and also in

every other possible special integer larger than itself. But such a world and its processes can not possibly, to my mind, have more than a relative truth and reality. They hold good, and can be used, that is, only for certain purposes and under certain conditions; and these conditions, or some of them, we throughout, as suits our purpose, ignore.

Inference in arithmetic, as everywhere, claims as its own essence the character of self-development; but that ideal it fails here to reach and is hence found wanting. The selection of the particular starting-place and movement may indeed, once again, be disregarded; for, though arbitrary, this does not affect the inference itself. But there remain defects which are internal. The inferences here, as everywhere else, will be imperfect, so far as they are abstract, and so fail to take account of one aspect of their own nature. Further they depend (as we saw) in every case on a whole which appears to combine contradictory characters. The movements of this whole, even if we assume them to be real, seem again to be throughout "external." The steps of its processes, that is, are made subject to unknown conditions, and its connections, no longer intrinsic, appear in truth to be mere conjunctions. No inference with such shortcomings can make good its claim to be a genuine self-developement.

(e) Our next kind of inference will be that involved in spatial and temporal construction. Here, once again admitting my ignorance of a great part of the subject, I must still attempt to deal briefly with what seems essential. Every construction presupposes a relative whole, of space or of time or of both, in which whole it takes place and on which whole it depends, though this whole (we must observe) is not given in the "premises." We have therefore, once more so far, an object developing itself ideally by virtue of that which is both itself and is also beyond itself. And hence in construction our main type of inference holds good. With regard to the "premises" we may, in passing, notice that, like all premises, they will, even merely as plural, imply an *And*, and must therefore, even so far, be contained in a whole. But, on the other hand, such a mere collective totality is not that individual spatial or temporal unity which is required for the inference, and which, itself again, is beyond what are called

the "premises." And (to pass to another point) there are two reasons why I have spoken above of the required whole as "relative." Not only is anything like an absolute whole of space or time to my mind an unreality, but further it could hardly serve the purpose of our inference. On the contrary what works is that relative whole which for our purpose we take as absolute.

Construction then claims to realize the essential type of inference as genuine self-development, but our admission of this claim is once more barred by difficulties. There is (we saw) a whole (spatial or temporal or both) which in every case is presupposed. Are we to say then that this whole already contains every possible arrangement and succession of arrangements, so that the conclusion of our inference both is and was? Shall we on the contrary, denying this, hold that space and time alter, so that, when our construction in fact happens and is there, our conclusion, then and on this, becomes true and real? Or shall we, thirdly, attempt to maintain both theses at once, though how to bring them together without contradiction we do not know? Apart from a solution of these puzzles the process involved in our inference appears in the end to be defective.

The fault does not lie in the mere fact of a selection made by us. However arbitrary our choice of a special starting-point and movement, that, once again, may be taken as falling outside the actual inference itself, and may thus be dismissed as irrelevant. But it is otherwise with the process essential to the very being of the inference. And, unless in this each step follows intelligibly from the character of the object concerned, the sequence is vitiated. With the introduction anywhere of a condition, not seen to be involved in the nature of our object and its implied temporal and spatial whole, the logical continuity has vanished. And hence, if the difficulties stated above cannot be resolved, the inference has turned out to be unsound.

Construction therefore, as a realization of our essential type, must be called defective. It fails, first, because, like every other inference, it is merely abstract. And it fails, further, so far as its process involves the intrusion into its object of a condition not contained in the known nature of space and

time and therefore external. I may add that to any one who, like myself, holds that the nature of both space and time, as such, involves self-contradiction, the above conclusion is even obvious. An inference built on such a foundation must, however much it is required, in the end be faulty.

(f) From this I pass to the inference used in Analysis and Abstraction, for I assume that in each of these an inference really is involved. Both processes exhibit, in however imperfect a form, our essential type. Their result (so far as they are inferences) is a conclusion, made necessary by a mediation which itself is the self-development of the object given at the start. I will show this first with Analysis (cf. Essay IX), and will then go on to deal with Abstraction.

The object in Analysis is taken as a member in an ideal whole which is not given, and it is this whole and its character which once more mediates, and so produces the result. And, because of the identity of the object with itself, both as given and also as contained in the above unity, the process claims to qualify the object by a genuine self-development. What then here is this necessary whole? It is the Universe, or some special region of reality, taken in the form of a dissected relational totality in which the elements contained are disjoined and independent. Thus, if we write the given object as Ro(abc), the conclusion will appear as

. And this result follows because of the identity of o, and because we have assumed that, whatever else R is, it is everywhere, or at least here, a totality which is disjoined and more or less anatomized.

Now, apart from the obvious and grave difficulty with regard to the main assumption, the above inference shows a very serious defect. Its essential process contains a step which, not being made intelligible, is therefore external. The difference between the first and the second appearance of Ro, and the passage of Ro from one of these stages to the next, obviously must depend on some condition other than the mere identity of o; and this condition is omitted. But with any such omission (we have noted before), the vital connection is broken. The process rests at a certain point on mere external

conjunction. And the inference therefore has failed to realize its type, and to make good its claim to be throughout a genuine self-development.

It is idle to plead here that the real process is the mere correction of an initial error, and that the true reality, remaining unchanged, both was and is what we write as

. For, with this, it is clear that the inference itself has been destroyed. We have no longer a self-development of the object from the beginning to the end. What has taken its place is our perception that the beginning was unreal, that there has been no process save the removal of an obstacle to our vision, and that the whole "development" in short falls outside the real object. If there is an inference here, it therefore belongs to another enquiry, and is concerned with the course of our mental history. But, if so, we have passed away from that inference from which we set out and the nature of which we still profess to examine.

Turning now to consider Abstraction, so far as this is inference, we discover once more the same process that appeared in Analysis. But the principle here is carried out to a further result. From the same given object, Ro(abc), we reach the conclusion R — a, or the conclusion R — b, or again R — c. And what may be called our middle is the idea of R as a world in which the connection of the elements is relational and every relation is external. Hence, since in Ro(abc) the elements, a, b, and c, are identical with the a, b, and c as they appear in this other world, our object Ro(abc) developes itself through this identity. It transforms itself into R — a *and* R — b *and* R — c; and from this, by elimination of the *and* as external, it passes on into any one of the three taken singly and by itself. For in that real world, which here we have assumed as our principle, no connection of the elements within R is real.

Thus our inference still can claim to be the self-development of our object, but we have seen the assumption on which that claim must rest. And the essential principle here implied may well cause us to hesitate. But, even apart from this, we are met by a further doubt. In what sense and how is the result here a continuous self-development throughout from

the start? If we insist that the conclusion follows really, then how, and by virtue of what omitted condition, does the beginning wear one character and the end show itself in another? The alteration is undeniable, but is it the real object which itself actually changes? To affirm this seems difficult, and yet, if we cannot, then, together with the process, our inference has become unreal. Or at least our question now seems, once more, to be concerned merely with our mental events and with the necessary origin and removal of our erroneous start. Or, finally, if we urge that Abstraction really is no more than an arbitrary selection made by us, the whole enquiry as to the inference which it implies seems, with this, to be dismissed. But what follows is that the result which in fact Abstraction gains, will be left unjustified.

(g) I will deal last with the inference which I take to be contained in Comparison. Once more here we shall verify our account of inference as self-development through a whole. But I confine myself here (the reader will note) to Comparison so far as really that is inference. Whatever subsidiary operations it sometimes or always may involve, must here be left undiscussed.*

What is the ideal whole, the totality, within which, and by means of which, Comparison goes to its end? It is an assumed world which, whatever else it is, is intelligible throughout, and is joined and divided by relations of identity and difference. We may call it perhaps a universe and system of classes. And because and so far as the terms of our given object are really in one with such a sphere, the conclusion which we seek is found and is justified.†

*On this point see the Additional Note on p. 405.

†In view of the difficulty of what follows I will venture to add an illustration. Let us take two bank-notes, and in the first case (i) an English and a foreign note, which, though obviously diverse, still strike us being somehow alike. A comparison may bring out the exact point in which the notes are the same, and this point may, e.g., be the character of the type employed. This common feature is the b (β), and we say "because of this feature the two notes are each an instance of β."

In the second case (ii) let us take two English notes, of which one (we know) is genuine and the other is suspected. Here, searching for difference, we pass, generally and in detail, from one note to

(i) If we consider first the case where Comparison brings out identity, we may state the process as follows. Two instances of R, one R^1abc and the other R^2dbf, lead to the conclusion $R(\beta)\begin{matrix}abc\\dbf\end{matrix}$. In each, that is, there is a common point b, and this, through its identity with an assumed β, makes our two data into instances, no longer of mere R but now of R (β). The middle is here an ideal whole, assumed as real, in which the character β is a class set out in all its diverse cases. And (as I have said) the identity (in R^1abc and R^2dbf) of b with this β is what moves in the process and developes the result.

(ii) Again, where Comparison is used to bring out difference, the principle is still the same. We start here with two instances, Rb^1a and Rb^2d. The conclusion at which we arrive is that these two instances differ in respect of a and d; and the question is as to the middle which here operates and serves as a bond. I am not enquiring (I may remind the reader) as to the whole nature of the psychical process, but am asking simply as to its essence when the process is taken as an inference. And here, so far as the result is inferred, the middle is the identity of our given a with an α and of our d with a δ. There are elements, α and δ, assumed in an ideal whole which includes our two given instances, and these elements are universals and classes containing, and specified in, Rb^1a and Rb^2d. Hence these latter prove to be different in so far as and because they really are diverse cases of α and δ.

the other, until (if we are successful) we feel a jar somewhere, and then go on to locate this jar in some one point, say a variation in the water-mark. On this we set down the two notes as different, *because of* these two diverse features which they exhibit and of which they now are instances. The a and d have shown themselves as α and δ, and the Rb^1a Rb^2d have come under an ideal scheme $R\beta\begin{matrix}\alpha\\\delta\end{matrix}$. And it is this scheme which carries the conclusion, so far as the comparison is an inference.

I recognize the difficulty of distinguishing here between actual inference and "subsidiary operation" itself "inferential" more or less. And, if the reader differs from the conclusion reached in the text, or even if he denies that Comparison is properly an inference, there is no great quarrel between us, so long as he recognizes that Comparison offers a problem, which, both in psychology and logic, demands careful treatment.

The assumption of such an ideal universe seems essential to Comparison when viewed as an inference. And how far this assumption is true ultimately, may of course be questioned. Again (whatever we may think on this point) we have once more the difficulty of reconciling the reality of our process with that of its result. If the conclusion reached by Comparison was there already and beforehand, in what sense has it been produced by the process? But, if our operation has merely led us and has enabled us to see what was there, the inference seems no longer itself concerned with the real object. If, on the other hand, we have *made* the conclusion, the beginning has *not* developed *itself* into the end, and the inference clearly is destroyed: while to maintain in the world an actual development into identity and diversity, a real movement of which our Comparison is one aspect, brings the same trouble from another side. For now we may have denied that what we find at the end was at the beginning really there. But with difficulties like the above the reader at this point will have become familiar.

III. We have now passed in review various types of inference. We have seen that (with the doubtful exception of Dialectic) each of these implies and is based upon one or more assumptions, assumptions which it does not, and perhaps could not, justify. Every inference, we have therefore argued, must be called in principle defective. But how far such a result, if accepted, will strike the reader as a paradox I am unable to say. That will depend, I presume, on his general view as to the relation of truth to reality. This result certainly will surprise no one who shares with me that general conclusion for a defence of which I must refer elsewhere.* On the contrary, falling short of ultimate reality, truth and logic may even be expected to fail in attaining perfectly their own object. And hence, in pursuit of its end, logic naturally and justifiably may make use of assumptions and even of fictions.

I will enlarge further on one failing irremovable, as I think, from logic, a defect to which I have more than once had to refer. This attaches itself to the connection in judgment and inference between their logical and psychical aspects.

* See my *Appearance* and *Essays.*

Like every other special science, logic in principle is forced to abstract. It has, on my view, to deal always with that which is ideal, and it remains in the end concerned only with and about an object or objects. And, since whatever is an object, is, so far, in the end an abstraction, logic has perforce to omit and to ignore one inseparable side of truth.

Truth necessarily (if I am right) implies an aspect of psychical existence.* In order to be, truth itself must happen and occur, and must exist as what we call a mental event. Hence, to completely realize itself as truth, truth would have to include this essential aspect of its own being. And yet from this aspect logic, if it means to exist, is compelled to abstract.

But we have not a conjunction here which can be dismissed as merely external. We can not maintain that logical processes and results are in the end independent and unaffected. It is not merely in order to show themselves here or there, that these processes have to depend upon psychical conditions. No such doctrine of simple conjunction is, at least to my mind, defensible. And hence the ideal truths of logic can not in the end hold good merely in their own right. If, that is, we could have a view of the world which was wholly intelligible, then the logical and the psychical side of any truth would not only be necessary, each in its own way, but the connection of both would follow also as a result from intelligible premises. The two sides would appear as the connected aspects of one implicated whole. But, as things are, while logic can not deny this connection, it remains by its own nature debarred from even attempting to take it into actual account. To suit its own special end it is therefore forced to ignore a necessary part of the concrete fact.

Psychology, again, on its side is correspondingly defective and abstract. It is concerned merely with psychical events, their nature and the laws of their happening, and it can pay no regard otherwise to their importance and value. This other aspect of value can not of course be denied by any sane psychology. That can not (any more than can logic) reject the connection between, e.g. logical truth and the mental course of events, and the influence and the dependence of these sides, each on the other. But such a concrete unity psychology, if

* See *Essays*, Index, s. v. *Truth*.

true to itself, is unable to consider. It can not, that is, deal with the reality and truth of its psychical event. It has to ask merely how that event appears, how it comes to happen as a fact in me, and how it affects the character of my mental history. If we take as an instance the phenomena of the religious consciousness, the psychologist must not neglect them. But he studies their nature taken merely as a kind of occurrence in the soul, with their influence on the course of psychical events. And as to the reality otherwise and as to the worth of these phenomena psychology is silent. With the question whether, and how far really, its mental fact is also the vital presence of an eternal God, it can have no concern.*

A special science is lost if it forgets its limited scope, and attempts to tell the whole and entire truth about its subject. And hence every special science remains in a sense defective. Thus psychology and logic, considering in part the same matter, are forced to take up that matter each one-sidedly and in the end untruly. These sciences of course should throw light one on the other, but neither deals with the entire fact, and the reduction of one to the other is impossible. Their real connection is a problem to be discussed, if it can not be solved, nowhere outside metaphysics. You may argue, if you please, that a science of logic is an unprofitable illusion, and you may of course urge the same conclusion about psychology if taken as a science. But, with this, though you may have destroyed in theory one or both of these sciences, you will most assuredly have failed to bring one under the other. Both logic and psychology, if they are to exist at all, must remain each in principle independent. The undistinguished use of both at once must, even where instructive, remain in principle confusion. And the subordination of one to the other, whenever seriously attempted, will never, I think, fail to make manifest in its result the absurdity of its leading idea.†

* On this subject see *Mind*, N. S. No. 33, pp. 26-27, and *Essays*, the Index.

† The reader will not, I trust, understand me here to be objecting to the psychological study of logical processes. I desire on the contrary to emphasize the importance of that study. What I object to is the failure to realize exactly what is, and is not, aimed at, and to the muddle which to my mind inevitably results from that failure.

IV. We have seen that Logic is abstract and one-sided, and that it is hence forced to stand on assumptions which are perhaps unjustifiable in the end, and which at least it can not justify. And, since inference fails to realize perfectly its own essential type of self-development, it must, in strictness, be called defective. I will pass from this result to deal with the charge of a further shortcoming. "Is not logic," I may be asked, "beside being abstract and faulty, even arbitrary and unreal? If inference comes from and depends on my selection, as in a sense evidently it does, this origin and dependence appear to be ruinous. For, with this, a psychical and so a foreign condition has become part of the process—a process which logic claimed as the self-development of the object." This difficulty, noticed long ago in the present work,* seems to be founded on an error.

My selection, however necessary and however foreign, remains (we may say) on the outside. It makes no part of that process in which the actual inference itself consists. For suppose that you have an ideal system, connected and real, in which a movement can bear the character of a self-development. Then the point in that system from which you start may depend on your choice, and may be set down, so far, as arbitrary. But this starting-place by itself is, so far, not the inference. The real inference consists in what follows from this point; and here your discretion is at an end. The admitted arbitrariness of the beginning is hence irrelevant to the consequence, and leaves the inference untouched. That remains still in itself a necessary self-development, however much its beginning and its special occurrence depend on your choice.

The same account holds when, passing on, we consider those other operations and processes which may be called subsidiary. Every ideal experiment, or tentative arrangement or suggestion, may be taken here as casual or arbitrary. These processes can all be said to depend on my choice or upon accident. But, once again here, all that is accidental or arbitrary falls outside of the inference. For the inference itself is confined to the logical sequence, and in that mere sequence it consists. Those operations which prepare or which assist, if

* See the Index, s. v. *Inference.*

taken merely in this character, remain therefore irrelevant. They fail to carry their nature as casual or arbitrary into the logical development and conclusion.*

These objections have added in principle nothing to that which already has been noticed. Inference is abstract, and is hence defective, and it is forced to remedy or help its weakness by assumptions which it can not itself seek to justify. On the other hand, whatever charge falls outside of its essential character leaves its claim untouched. And if it is objected further that logic after all depends on an activity which is mine, our answer is ready. There is here an evident assumption that whatever is mine, is mine only; and that hence inference, because it is only mine, is vitiated. The conclusion, I should agree, has been rightly drawn, but its foundation, on the other hand, is false, since "mine" and "mine merely" are certainly *not* the same. Since the real whole works in and through myself, its activity and mine are thus one. And hence to take the personal aspect as implying confinement to a particular person is a fundamental error. The action and the process in inference becomes what we call "subjective" and "merely mine," only so far as it deviates from the "objective" sequence. But, so far as deviating, the process has ceased to be inference.†

It is the ideal connection in the inference which (as we have seen) *is* the inference; and this sequence itself is not subject to my choice nor does it belong merely to me. And its ideal development, I insist, not only is true but is real. Inference everywhere (we have found) presupposes and rests upon wholes within which, and by virtue of which, its movement is valid. And logic takes these wholes, and is forced to take them, as at once intelligible and real. Reality in the sense of "existence," as particular facts in our "real" order of space and time—these logical ideas do not possess and do not require. And, again and on the other side, they have not ultimate reality. You can not maintain, that is, that in the final Whole, if we could know that in detail, these ideas would

* The reader may be referred here to Dr. Bosanquet's *Knowledge and Reality*, Chap. VI.

† Cf. *Appearance*, pp. 237-8, *Essays*, Index, s. v. *Subjective*, and the Index of this work.

keep their characters as such, and remain simply themselves without supplement and transformation. The realm of inference and the sphere of logic will therefore belong in this sense to the region of appearance. And, in this sense, not only the world of truth but every other special aspect of the one Universe in the end all are appearances. But on the other hand and none the less, these appearances everywhere are real, real each in and with the life of the one vital Reality, and according as each in its relative kind and degree is a special mode in which that absolute Whole shows itself and is real.

There is no force in the appeal to the triviality of much that is permitted by logic.* The detail of illustration and of argument may at times be foolish, and (it may be urged) to claim reality for such rubbish is perverse. But in this objection the issue has once again been confused. Admit the triviality and there is a question, first, as to its relevance. Does the detail which we condemn belong to the inference itself, or does it, on the other hand, fall itself outside the logical sequence? In the latter case this detail, being not essential, is merely irrelevant, and to enquire further with regard to it is not the business of logic. Logic, being abstract, has, in order to exist, to take place in a world of psychical irrelevancy, an element with which, except to use it while never including it as such, logic is not concerned. And wherever there is a special science there is, with this necessarily, an irrelevant matter the presence of which is assumed and not explained. But the general difficulty, as to the existence anywhere of irrelevancy, belongs to metaphysics.†

Still, when we exclude the irrelevant and confine ourselves to what seems essential, there are even then (it may be said) inferences which, though logical, are childish; and how can these have reality? We have here, I reply, not an alternative between Yes and No, but a question of How much. You can not, because this or that detail is relatively unimportant and even trifling, go on to conclude that it absolutely does not matter and so is unreal utterly. The world of logic and of truth, and the whole region of what we may call the "objective" province, is (if I may repeat this) not ultimately

* See on p. 583.

† See Essays, Index, s. v. *Irrelevant.*

real. It throughout depends on conditions which it is unable to fill in, though it can not deny their vital necessity. But, though thus abstract, and though, taken simply as itself, not fully real, this world has, none the less, its relative reality. Further, within its special realm there again obviously are indefinite degrees of what contributes more to the whole, and so accordingly counts there and there is real. And on the other hand there is of course a corresponding scale of unimportance, and so of unreality. But as long as, and so far as, any detail, however trifling, essentially belongs to logic, that detail, so far, is justified. It is real with the reality of that kingdom in which it owns a place, however mean that place may be, and although we fail satisfactorily to explain its presence and precisely assign its function and standing.

V. Every inference (we have found), if true to itself, is neither arbitrary nor unreal. In its own world, and so far as it succeeds in maintaining its proper character, it has genuine reality. On the other hand, so far as its process comes short of an ideal self-development, it fails to be inference. And, since in practice our attempts are for various reasons all liable to this failure, no inference is infallible.

(i) Every logical process, we saw, is, viewed from the other side, a psychical happening, and this aspect of mental event is throughout involved inseparably. Every attempt at inference, therefore, in a sense depends upon psychical conditions, and the attempt may fail to control sufficiently and to subdue these conditions to its logical end. And from hence must arise a constant danger. For in the actual process some connection, which, though necessary here as a psychological event, is, taken as a logical development, irrelevant and false, may succeed in intruding; and its intrusion may break that ideal continuity in which the inference consists. In the present volume I noticed and explained, I still think satisfactorily, this irremovable source of deviation and failure.*

(ii) And the very types of inference, even themselves, rest (we saw) on assumptions. And, with a doubtful exception, these assumptions (we found) have no absolute truth. They imply, that is, and they everywhere depend on condi-

* See pp. 445 and 571, and cf. *Essays*, p. 368.

tions which they fail to include, conditions the inclusion of which must to an unknown extent modify and transform their nature. And hence, even in our general types, the realization by each of its own idea and essence remains imperfect.

(iii) Further, as in this volume I urged,* there neither is nor could be a collection of any logical types such as to serve everywhere as prescriptions. The idea of a complete body of models of reasoning, to be followed as patterns and faithfully reproduced to make and guarantee the individual inference, I set down as a superstition. No such code of rules and examples could, as we have seen, warrant its own infallible application; and, in the second place, no collection of models could conceivably be complete, and so anticipate and prescribe beforehand the special essence of every inference. For the truth and reality of our reasoning does not lie merely in its belonging to a certain sort. It consists in the development of an unbroken individual identity to a result which is its own and which meets its particular requirement.

With inference (I forbear to ask if any exception is possible †) the process and conclusion is in one sense everywhere typical. Everywhere there is a something which must be called irrelevant and beyond the principle of the inference. The inference, when made, can thus be regarded as one instance of a possible class, and hence as the realization of a type. But the knowledge of the type and class is not prerequisite for the actual inference, and, before the actual case has happened, such knowledge may be downright impossible.

Inference (if I may repeat this) is self-development, and the self to be developed is individual. The main question then is as to that essential bond of identity in difference through which the process is one. The answer is given only by a perception of the special purport of each inference, and by a discernment of that which, through its individual unbroken development, unites the end to the beginning. The mere grammatical form, I have pointed out,‡ is very apt to mislead us.

* Pp. 266 foll., 519 foll.

† There may be, it could be urged, an inference (with regard e.g. to the Absolute) which is in principle unique. But even here, since the inference is capable of indefinite repetition, it must still be, so far, a case and instance.

‡ See the Index, s. v. *Subject*.

The real subject of our process can not be assumed to lie in that which makes the subject of our sentence. And what in the particular case is, and is not, the subject which we mean—what, in the end and really, are our "premises," how much here actually is given, and how much has here to be implied—are questions where no ready-made formula can find an answer and prescribe a result. Our inference, once made, may, I repeat, be recognized as the instance of a known class; or, again, it may be noted as embodying a principle to appear in other possible cases. But there is no exhaustive collection of forms waiting stored up in the machine, ready on demand to give out the infallible formula, and everywhere to prescribe our action and its issue. On the other hand, as to how far with our reasonings it is desirable in practice to reflect, and to recognize the vital principle of each particular case, I wish to offer here no opinion.

In the above I have urged once more against "Formal Logic" the criticism which, nearly forty years ago, appeared in this volume. But how far the position taken by Dr. Bosanquet and myself, has since been destroyed by the defenders of Formal Logic, or again perhaps strengthened or even superseded by logical discoveries due to later innovators, I do not attempt to discuss.*

There is no inference then (we have learnt) which is not fallible. There are no types which can prescribe everywhere our individual end or action; and, even if that were otherwise, the application of the type remains fallible. For, wandering from its controlled essence, the actual process may lapse into psychological deviation. It may accept, through the intrusion of some irrelevant element, a breach in its vital identity.

VI. Every inference is fallible, and no logic can provide an individual guarantee. The idea of personal guidance by the impersonal is everywhere, as I have pointed out (pp. 266 foll.), at best illusory. And, "if this is so," the reader may object, "what becomes of Logic? And are we really to be left without any criterion of logical truth and error"?

If the criterion is to be a touchstone which, applied to any and every statement or inference taken isolated and by

* See the Preface.

itself, can test that statement or inference, then I agree that no criterion is possible. The criterion, taken in such a sense, may be dismissed as a mere superstition. But the true and real criterion is the idea of reality and truth as a system. There are difficulties, no doubt, in the application of this principle; but there are none which, so far as I can judge, even tend to make it doubtful.* Our actual criterion is the body of our knowledge, made both as wide and as coherent as is possible, and so expressing more and more the genuine nature of reality. And the measure of the truth and importance of any one judgment or conclusion lies in its contribution to, and its place in, our intelligible system. This is the doctrine which, though in the present volume I failed to insist on it, I inherited and have always held. For its consistent and invaluable advocacy the reader is referred to Dr. Bosanquet's writings.

But, if logic can supply no touchstone which will directly test the particular case, what (the objection will recur) is the use and object of Logic?

Its direct and primary purpose is, I reply, to set out the general essence and the main types of inference and judgment, and, with regard to each of these, to explain its nature and special merits and defects. The measure here to be applied is the idea of perfect truth in the sense just explained. Truth is reality taken as ideal, and that must mean reality taken as an intelligible system; and every judgment and inference therefore must be understood as directed and aimed at such reality. The degree in which the various types each succeed and fail in reaching their common end, gives to each of them its respective place and its rank in the whole body. Such an exposition is in my view the main purpose of Logic, but for an attempt to realize this object I can not refer to the present volume. The reader must be directed once more to the works of Dr. Bosanquet.

How far the study of Logic, in any sense, is likely to aid us in practice, I must leave undiscussed. I am without that experience, whether in others or in myself, which alone could justify an opinion. In my actual reasonings I myself

*On the connection between System and Contradiction, and on other points, see my *Essays*, Chap. VII, and Index, s. v. *Criterion.*

certainly have never troubled myself about any logic; but I do not know the conclusion which should follow from this, or whether (whatever it may be) it would apply universally. Still, any usefulness in practice falls, I must insist, outside of the main end and purpose of a true Logic.

In the foregoing pages we (however imperfectly) have noted the main character of Inference, and have verified this by an examination of some types of reasoning. We have seen that Inference everywhere requires assumptions, and is everywhere in various ways defective. We have emphasized the abstractness of Logic, and have called attention to what follows from its inseparable union with a psychical aspect. We have asked how far all inference is arbitrary and unreal, and have urged that, in any case, every particular reasoning is fallible. Finally we have remarked briefly on the genuine end and purpose of Logic.

ESSAY II

ON JUDGMENT

In leaving Inference for Judgment we become aware of a difference, but this difference, it is clear, is not a gulf which sunders two worlds. For, whatever else, and however much else, an inference may be, an inference still is a judgment. It not only ends in a judgment, but it remains one throughout its whole course; and, otherwise, no inference could keep its character of ideal self-development. An inference (if our account was right) is a judgment mediated and self-mediated; and this its essential nature, further, is not merely implicit but is shown ostensibly. The form, by which we express this, is "S(M) — P," or "S is P because it must be P." Though we may not know exactly what M is, yet what we assert in inference is that S, implying M, implies P. And thus inference is clearly assertion and judgment, if judgment only of a certain kind.

But, on the other hand, can it be said that all judgment is inference? This (the reader may object) does not follow, and is even contrary to plain fact. And we have no right (he will add) to confuse here the real issue. Undoubtedly judgment to a great, to a very great extent, may involve inference. But, granting this, and even if we went on further to admit that there is inference in every judgment, yet even from such an extreme admission (the reader will urge) the required conclusion does not follow. For we have still to show, and we can not show, that the judgment itself is an inference.

In the way of such a contention (we shall be reminded) stands undeniable fact. It may be doubted if in judgment we must always start with an object which is ideal; as we always must, on the other hand, whenever we infer. And, even if such a doubt is dismissed, what remains certain is this—that we do *not* in every judgment so much as profess to develope our object ideally. There is in short (the reader may insist) no "must" in a judgment, so long as you keep to the mere judg-

ment. That, if you keep to it, gives you no ideal and necessary self-development. On the contrary, as simple judgment, it confines itself to mere matter of fact. "S in fact and as a fact is P"—so far goes the mere judgment. "S for a reason must be P"—with this, admittedly, you have inference; but with this you have been carried away and beyond judgment proper.

The objection which I have just stated, can not lightly be dismissed. It is far more, I am clear, than a mere plausible argument. And the difference between judgment and inference, on which it insists, can not fairly be denied. This apparent difference is there in fact, and so much, I agree, is certain. But then the real question, I go on to urge, is as to the true nature of this fact. Judgment, I fully agree, if taken as a *mere* judgment, is not ostensibly mediated. So far, that is, as you confine yourself to bare "S is P," there is no "must" which appears. You neither mean to infer nor, so far as the form goes, have you actually inferred. But, on the other hand, with this, I repeat, we have not reached the true issue. The vital question is whether judgment, though distinct from inference in form, is not everywhere inference really though not explicitly? The difference between the two would, if this were so, have ceased to be essential. The avowed "must" of the inference would, in other words, only show what was there, though ignored, in the judgment. And every judgment in its own nature would involve a necessary sequence, however much we may fail to state this sequence and even to perceive it. The *mere* judgment, if so, would be nothing which actually exists. It is never anything but our abstraction mistaken for fact; while inference, on its side, adds no more than the development and explication of an aspect which in judgment, however hidden, is always essential.

The above conclusion, I understand, is that advocated by Dr. Bosanquet and developed by him in his admirable *Logic*, to which the reader is referred. My own acceptance and defence of it is to be found in my *Appearance* and *Essays*, and I can here do little more than set down the general result.

Not only (this is our doctrine) does all judgment affirm of Reality, but in every judgment we have the assertion that "Reality is such that S is P." Now, if you recognize this

"such" and attempt to state it, and make it ostensibly the bond of union by which S, passing beyond itself, itself is P—with that you have an avowed inference. The inference is of course more or less undeveloped and imperfect, according as, less or more, it succeeds in bringing out and in particularizing the actual "such." It may fail more or less (we may put it so) to get inside its S the necessary condition of its judgment "S is P." For, wherever a condition, external to S, is the cause of the movement of S to SP—there is so far (we have seen) no genuine inference. Thus an inference which leaves out less or more that real world of conditions in which and through which S is taken to develope itself into P, comes short in proportion and is untrue to its own ideal. Still, wherever the bond between S and P is recognized in any judgment, you have formally an inference.

Wherever on the other hand in "S is P" you ignore the implication "S(R) — P," or "R is such that S is P," you have here "a mere judgment." Having closed your eyes to the ideal bond, you have now before you the form of simple matter of fact. There remains indeed a reference to Reality, for you certainly still mean that S *really* is P—but here, in your statement, you stop. You do not mean to deny that there is "something" in Reality, and that, this being so, S is P, although the "something" is ignored. And you do not even ask whether it is not really this "something" which turns S into SP. Not only do you leave out the condition on and by which S is P, but you omit even to entertain the idea of there being any condition to leave out. And hence, so far as your form goes, you have excluded, actually though not explicitly, the inference which is there. On the other side, what you have gained, when you thus insist upon the simplicity of your judgment, is no real matter of fact but in effect and truth a sheer abstraction. Hence, if this is so, every judgment will imply an inference essentially. Judgment comes short of inference only so far as it omits to mark or specify a condition fundamental to its own being. Inference on the other side makes ostensible this condition involved in all judgment. It is hence (we must say) judgment developed; though, so long as the condition is not fully specified, the development remains imperfect. But a mere judgment, we have seen, is no more than

an abstraction, which lives solely in and through our one-sided emphasis and our failure to observe.

It may assist us here to notice an objection which, though it contains truth, seems in the end to be invalid (cf. p. 439). "If we admit" (it may be urged) "that the Reality qualified by the judgment is always a special reality, it does not follow that what mediates the content asserted is in fact this reality. The real 'because' and its necessity may on the contrary fall elsewhere. For suppose that two things, A and B, are perceived together in fact, the reason for their conjunction need not lie in the scene which is before me. It may on the contrary consist in physical and psychical conditions, which are (so to speak) behind my back. The conjunction, therefore, asserted in my judgment, though mediated, is mediated outside the judgment and elsewhere." To this objection I reply that, starting from a truth, it has gone on to a mistaken consequence. When I judge that A is to the right of B, the reason why my particular fact is so perceived, need not, I agree, be given in the special situation as I know it. From the object of my judgment, as that comes to me, the required mediation may, I admit, be absent. So much is true, but what is false is the conclusion that the unknown conditions of body and mind do *not* belong to the special object which my judgment asserts. For no such denial is true or will follow here logically. There is, in general, no division and no solution of continuity between the real Universe and the reality special to my judgment. And, in particular, even the bodily aspect and conditions of any truth are (we have already seen, p. 612) implied in that truth intrinsically. If, that is, my object, however special, were known to the full, these conditions would be developed from it visibly as a part of its nature. Hence, when I judge that "Reality here is such that A stands to the right of B," the whole of the conditions, the entire "because," are, I agree, not given in the "such" as that appears in my judgment. But you can not conclude from this that any part of the "because" is really extrinsic, and so falls outside of what is contained in the nature of my special assertion. On the contrary, the internal defect of my judgment lies in this—that its own claim is not made good. It fails to specify in detail that

very mediation which its own "such" has implied and has really asserted in general.

I will, before proceeding, remark on a source of possible misunderstanding. Judgment and idea though, like inference, the same always in essence, may be taken, like inference, at various levels. And, so taken, they may differ in form and may bear a varying sense. They may be explicit and offer themselves as judgment and idea; or again, while it is there in substance, they may fail to make this character ostensible. Thus, wherever you have an object, you can speak of judgment and idea as being present essentially, since you have here an idea referred to reality, and in a sense affirmed as true. For an object, as an object, implies and means a content at once distinguished from and taken as belonging to the whole remaining Universe. And, since with the selection of such a content its existence otherwise is ignored, the object already is ideal, and, with this, you have at once idea and judgment.*

In the foregoing volume, however, I used "Judgment" in a restricted sense. I have applied the term only where, having an object, you also more or less knowingly go beyond this object and extend it ideally. I have taken judgment as the more or less conscious enlargement of an object, not in fact but as truth. The object is thus not altered in existence, but qualified in idea. An object S, when you judge, goes on to take to itself P, which, though about S and of it, is yet distinguished from any addition which S would gain by becoming itself altered in existence and fact. Thus, while every object, and, markedly, every continuing object, may, if you please, be called a judgment and an inference, yet in a stricter sense inference and judgment may not yet be there. For the object, merely as perceived, is not, as such, qualified as true. An object, as perceived, must (we may say) always in one sense be less than true, while in another sense it transcends and possesses more than mere truth.

* Even where the Universe itself is an object this statement holds good; for here the Universe is taken in a character and not merely as a given mass. On this point, and on the whole of the above, see my *Essays*, pp. 32, 41, note.

If I may so far digress as to make use here of the example of a musical air, to take this as itself essentially a judgment and inference would not, I think, be defensible. For an æsthetic object, left merely as such, does not come to me as true, nor does it offer itself as mediated by any link of internal necessity. Such an object, I fully agree, is never a mere fact. It is always ideal in the sense of something set free from mere existence. But on the other hand the æsthetic object, no less, is an individual reality. Though ideal, and because ideal, it is self-contained and self-existent, however little bound to the context of that world in which it appears. Hence, because it is something *more,* this object is *not* an ideal adjective of reality; and, in the narrow and special sense of truth, the æsthetic object, as such, is not true.* When you reflect and analyze, then I agree that the case is altered. The æsthetic unity may then be seen to be mediated ideally, to contain inference and judgment, and, taken so, to be true. But here, in becoming discursive, the whole has so far been broken up, and so far, as æsthetic, it has ceased to be itself.

On the one hand, therefore, used as an example of infer-

* Poetry, it might seem, is an exception, since here the matter (it may be said) consists in statement, which obviously bears the form of truth. While agreeing that this in the main is so, on the other hand I insist that the statement is not the poetry. And, to become an æsthetic object, the statement must be transformed by further elements so that in the result the statement has, as such, ceased to be there. The ideas, in becoming poetry, have become something more, if, on the other side, something less than mere truth. We have not to apply here as a touchstone the question "Is this true?" The satisfaction found or sought here is, we feel, something different. And, if we insist on our question, we have for better or worse left behind the real poetry. But there are those, I admit, who can not rest content until every song has been translated into a theorem or a mare's-nest.

An æsthetic result, I agree, is "true," if you take "truth" widely, in the sense of that which is at once ideal and real. But our enquiry is restricted here to *logical* truth, and the question to be answered here is the following. "Does the result belong to the starting-point as its ideal and adjectival qualification, not taken as otherwise real; or is the result, while ideal, regarded as having and as qualifying a reality of its own?" In the latter case we have gone beyond truth in the narrower and stricter sense of that word. Cf. the Note on p. 445.

ence or judgment, the æsthetic object comes short. It serves well, on the other hand, to illustrate our type of self-contained self-development; for it can realize that type in a way denied to any mere object of sense, however continuous that may be. Self-contained self-development, we have seen, is the aim of truth always, though it seeks, as truth, to realize this end only in the form of ideas. To pass beyond ideality and to find, or seek to gain, individual self-existence, is in principle to leave, for better or worse, the region of truth.

I have pointed out that the word Judgment is, apart from some special context, to be taken as used in a limited sense. Returning from this digression I will now go on to develope a consequence implied in the nature of Judgment. Judgment is on the one side selective, ideal and abstract, while on the other side it is conditioned by that reality which in a sense it fails to include. Hence all judgment is mediated, essentially though not explicitly; and in the end all judgment, I shall further urge, is irremediably conditional.

There is an error against which in this book I failed to warn the reader, though I do not think that I myself really went astray.* All judgment is of Reality, and that means that it makes its idea the adjective of the real Universe. Now it is possible to take the reality, so referred to, as being Reality merely at large and without distinction. The result which follows is that the whole ideal content affirmed tends to fall outside the Reality, which on its side tends in consequence to fade into an empty abstraction. The reference of the predicate, thus having become general and formal, misses its own special mark; while the subject reality, in the absence of any distinctive character recognized as falling within itself, becomes naturally the prey of some false alternative. We are ridden by the assumption of a narrowed Reality, together with a world or worlds which fall somewhere outside, and, though unreal, somehow are. And with this enters an inevitable train of hopeless puzzles as to the actual nature of the abstract and negative, the hypothetical, the possible, and the imaginary. On this foundation of sand have been piled, and in it (it is not too much to add) have been engulfed,

* See the Notes, p. 591 foll.

superfluous mountains of wasted labour and perverse ingenuity.

In Judgment the Reality to which in fact we refer is always something distinguished. It *is* Reality, as our whole world, but, at the same time and none the less, it is also *this* reality. It is a limited aspect and portion of the Universe, it is some special and emphasized feature in the total mass. And yet on the other side this selected content, whatever it becomes also for our distinction—however much it may (so to speak) loosen itself from the subject and take the form of an ideal predicate—never on the other side fails to inhere in the undivided totality. What we have distinguished remains also inseparably in one with our whole Universe and qualifies that immediately.

Reality (to repeat this) as the subject of our judgment, is always a selected reality. And yet, on the other hand, however much content passes over, as an idea, into what we may call the predicate—this content still, as an immediate qualification, makes part of the entire subject. However much emphasized it remains still in one with the unbroken Reality. Hence if you ask as to the content of some judgment, whether this does or does not belong to the idea which is asserted as true—your question is misleading. There is no defensible answer which can bear the form of a mere "Yes" or "No," and fail to imply "both at once." That content which still characterizes immediately our selected reality, does itself also more or less pass into the "idea" which is predicated as true. Hence the matter of our separated predicate is continuous with and in one with the presented Universe which is our ultimate subject. And our assertion therefore (it follows) is qualified and conditioned by the entire Reality, however little that condition is recognized by our judgment.

This two-fold nature of Reality, by which it slides away from itself into our distinction, so as there to become a predicate—while all the time it retains in itself, as an ultimate subject, every quality which we loosen from and relate to it—is, if you please, inexplicable. But none the less, I must insist, it is a fundamental fact, the ignoring of which brings certain ruin to any theory of judgment.

All judgment then implies and depends on a selection made

in Reality—a selection which, passing into the judgment, conditions that essentially. This selection further (I have to add) is assumed, and is not justified in our judgment; and it never in any judgment can be fully justified or even recognized completely. In the end we assert something of a reality qualified by the whole Universe, but exactly how qualified we do not know. And thus our assertion is made always under and subject to a condition, which we never in our judgment can fully explicate and entirely there justify. Our "S is P" affirms really that Reality is such that S is P. But our judgment does not show how Reality either is or can be "such," nor does it inquire as to the exact nature of this "such" which governs it. Our judgment therefore ignores an issue on which its life must depend. It turns its back on a question which by its own nature it is in the end debarred from answering.

All judgment thus is in principle mediated, not ostensibly but really. Though not in form yet in substance it contains and rests on a "because." Our S is P can not stand unless we write it as S(R) — P, and that, we have seen, means in the end that S is P because R is such. But, if so, inference, we have found, is no more than developed judgment.

I will, before proceeding, allow myself, at the cost even of some repetition, to enlarge on this head. I will once more point out how judgment depends on abstraction, an abstraction which it ignores, and in the end could not justify, and how therefore, by what it has ignored, every judgment really is mediated and conditioned. The reader who has already been satisfied may prefer to pass on.

(a) In the first place evidently a judgment is about an object. Now an object is not the whole of Reality as that at some moment is experienced immediately. The object omits and ignores whatever in that total experience falls outside its selection. And what that selection includes is therefore ideal, for it implies a loosened unity of the "what" and "that." The object thus fails to embrace the rest of the experienced Universe, while, on the other hand, in that residual and entire reality its own existence is contained. On the one side the content of the distinguished object is ideal, and is hence an idea though not as such explicit (p. 626); while on the other

side it still remains integrally in one with the whole Universe, and inheres and is still comprised in that totality. But this vital connection is neither recognized nor is its precise character known. The object therefore remains conditioned by that which is unknown, and, only on and subject to this unknown condition, is the judgment true.

The above conclusion, I may add, still holds in principle, even when you limit your Reality to what may be called the world of objects. Any one object will still depend on a selection from the "objective" Universe. And it is once more incumbent on you to show how, removed or loosened from its whole context, your object retains a right to its own qualification. This burden is, however, ignored by your judgment, which hence asserts subject to a condition not specified or known.

(b) The same radical defect becomes more apparent when we pass to a higher level, and when we enter the realm of explicit ideas and of truth and judgment proper. Here the ideal content asserted no longer comes to us as directly qualifying an object perceived, and the problem takes a new form and is forced on our notice. For, if our real and ideal worlds no longer simply coincide, we are driven to enquire, as to our "real world," how much in the end it includes. We are forced to ask how this world stands to the province of non-perceived fact, and, again and further, to the whole region which we mark off as "imaginary." Since all these spheres undeniably *are,* and since all of them somehow are together, there may or must, presumably, be some connection between them. But, if this is so, how can the truth about any one of them be wholly true, if it chooses to isolate itself and to take literally no account of the rest? Hence, since judgment stands, at least in form, on this unwarranted isolation, it makes its assertion really subject to an unstated condition and an unknown "because."

Further, ideas and judgments, when I reflect, are known and recognized by me as things which exist in my head. Whatever truth and reality they possess otherwise, this aspect also at least appears as part of their nature. Judgments all exist psychically as events in me; and they seem to depend, at least to some extent, upon my activity. But, once again here, our

judgment is blind to an aspect of its being, and hence fails once more to include an apparent condition of its own life. I do not, of course, mean that this psychical existence is merely mine, or that my activity is not essentially also the activity of the Universe. And, at least in abstaining from any such implication, judgment is free from a fundamental error.* But on the other side it is defective clearly, in that it ignores, and that it has here to ignore, a necessary aspect of itself. Judgment thus involves here a condition and a "because" which it neglects to recognize and state.

On one side judgment (if our view is right) asserts really of the whole Universe. Its claim to truth amounts in the end to that, and nothing less than that in the end is contained and is meant in its assertion. On the other side a total affirmation of the mere whole would itself be nothing. And so judgment, being forced to distinguish and select, is compelled to leave out that which in reality it must include. Hence, unless the Universe itself is a disconnected conjunction, separable at pleasure, and itself really grouping itself into limited conjunctions at our will—judgment fails to take in connections and conditions apart from which its truth is not true. While perforce unconditioned ostensibly, it is thus actually conditioned by the ignored and unknown. Its S is only P because that S essentially involves an Rm — p; and the judgment therefore is an implicit and undeveloped inference.

We have seen so far that, as every inference is a mediated judgment, so all judgment, being mediated really, is an inference. There is no difference between the two except that judgment, as such, is not mediated ostensibly. In what we call a mere simple judgment there is no appearance of a "must" or "because." But the "because" (we have seen) is there essentially, however much it is slurred or ignored. Our simple judgment in short is an abstraction, the mere creature of false theory, which only by an error can be accepted and be set up as an actual fact.

We have now to take a step further. Not only is all judgment condition*ed*, not only does it involve a "because," but, in addition, every judgment is condition*al* and implies and

*On the above see p. 615, and *Essays*, Index, s. v. *Judgment*.

depends on an "if." This apparent paradox was advocated in the present volume, and I must endeavour, once more here, to justify and explain it. We are brought face to face with the enquiry into the ultimate difference between "because" and "if." But my space here limits me to an answer which I fear the reader may find too brief and dogmatic.

The question "What is because?" asks (I understand) about the nature of a "ground." And the "ground" of a thing I take as that, both within the thing and beyond it, which makes it to be what it is. Hence on one side (at least on my view) there can not conceivably be a ground and "because" which is merely external. If the ground is not implied and so intrinsic, it, as a ground, has no meaning. On the other side, unless the ground is *beyond,* it, once more and no less, is meaningless. And for anything to imply merely itself is, to my mind, nonsense.

The result of the above (to advance rapidly) is that the ground is a whole, in which the thing to be grounded must be included. It is a whole pervaded essentially by connection and implication, and is, in some sense, a system which throughout justifies its contents. Such at least is the view which I have been compelled to adopt; and both objections and distinctions must perforce be passed by here unnoticed.

If this is the "ground," what then (we have next to enquire) is a "condition"? A condition appears (we must reply) to be a partial ground. Where anything is included in a whole which is its ground, there any other part of the ground, beyond this thing itself, is called its condition. And this element will be one among our thing's many conditions, unless at least we can assume or show that no further element is contained in the ground.

Hence the "because" of anything may be called that by which it is conditioned. Its full "because" implies the presence of the entire whole of its conditions, and includes in this whole the thing's own nature, so far as grounded. This, and no less than this, is the true and real "because." But we can use "because" again in a less complete sense where we take the thing as conditioned partly. Here we single out and refer merely to one selected element, one part of the whole of those connections which are involved in the ground. Such an im-

perfect use of "because" is unavoidable and necessary in practice, but, indefensible in the end, it is even in practice a constant source of grave and insidious error.

In proceeding from the above to ask next for the meaning of "if," we may be said, leaving the condition*ed*, to pass on to that which is merely condition*al*. The first of these gave us a judgment which actually is mediated. S here is P because of M. We had, in other words (we saw), a whole which includes and supports and guarantees at once S and P and also their actual junction. This is what is implied, and this is what we should mean when we call a judgment condition*ed*.

Now, where we employ "if," and where our judgment becomes condition*al*, we still always must have a necessary mediation and a "because." In "S, if M, is P" the actual connection M — P* is positively asserted, and M — P is taken as grounded and as unconditional. And, if we are unable to say that much, the entire judgment is ruined. Hence, wherever we use "if," we must necessarily imply a "because" on which our judgment depends. And our judgment "S, if M, is P," no matter how condition*al*, must also so far be condition*ed*.

Thus, so far as "M — P" is concerned, the above judgment is conditioned; but it is otherwise when we take the connection of S with M. Here we do *not* assert or assume conditions which to our knowledge connect S with M and so guarantee their union. On the contrary, our "if" admits that the connection S — M remains in part unknown. We have hence asserted S — P subject to, and at the risk and mercy of, an unknown condition; and our judgment therefore, as a whole, is merely conditional.

It may be objected that this difference is in the end superficial, and the objection may be based perhaps on the following argument. Since S, M, and P are (you must admit) all actually together in some whole, and, further, in a whole which connects its contents—it follows that S really does and must somehow imply M. The only difference, therefore, when we pass from "because" to "if," is this, that we can not specify

*Or (S)M — P. See below, pp. 635 foll. In order to simplify here this qualification is omitted.

all those conditions which unite S to M. Part of these conditions, admittedly, we know; and, as to the rest, we both may and must assume their existence. Hence, even when we say "if," the judgment still really is condition*ed*. The "because," however much its nature is proclaimed by "if" to be partly unknown, is none the less known to be there. It is a fallacy to treat the presence of a connection, so far as unknown, as being nothing for our knowledge. Thus perhaps may run the objection.

What has been urged here, I reply, has failed to perceive the real distinction which separates "if" from "because." We assume (the reader may recall) that "because" refers to a "ground," and we have taken the ground to support and guarantee whatever it includes. But, ground being so understood, the connection S — M, where you say "if," is clearly, thus far, *not* grounded, nor, thus far, taken to be so. Certainly (at least to me) S is *somehow* connected with M and so therefore with P, and as far as this goes, there is no doubt. The real doubt, to which "if" points, is whether S is connected with M *in such a way that, taken so,* S remains itself. If our judgment "S, if M, is P" implies that S and M are united *somehow,* that judgment still does not assume that they are connected either simply or *anyhow.* To gain the required union with M, S (for anything our judgment knows) has to become something more and something else. It must be altered (for all we know) so that, as such and as S, it is really no longer there. And the admission of this doubt surely is not compatible with the assertion that S is P because it is M. If that assertion is to stand it must be based on a ground assumed or known actually (we need not know *how*) to guarantee the connection S — M. Such a ground clearly, I repeat, is not involved in our judgment that S, if M, is P. And the replacement of this ground by an uncertain condition, the effect of which upon S is unknown, is, I urge, precisely that meaning of "if" which separates "if" from "because."

To put the same thing otherwise, every judgment depends on a selection. It asserts, not merely of the Universe at large but of a limited reality. The foundation, therefore, on which a judgment stands is not barely the connection of all things, but is also a ground special and individual. Now in

"S, because M, is P" the special ground of my judgment is taken to guarantee the connection S — M — P. But substitute "if" for "because," and I have at once the admission that, for all I know, I have passed, so far, outside the boundary of the above special ground. I am therefore, so far, without any guarantee for the connection S — M; and I employ the word "if" in order to express and to mark my failure. And that failure can not be made good by any appeal to some other ground, unless, to my knowledge, this other ground actually guarantees S — M, and guarantees it (we may add) without detriment to the connection M — P.

The Universe can not (we may remind ourselves) be in the end understood as a Whole of ground and conditions. If "conditions" imply that a thing remains itself when conditioned fully, then clearly the use of ground and conditions (in the sense which we have given to these terms) is limited and relative. Taken as more it becomes untenable and conducts us to insoluble difficulties. But, while we retain the above use (as for our present purpose, I think, we must), the following result seems evident. Our judgment, S — M — P, when we qualify it by "if," does *not* claim to be grounded except in part. And in that judgment we do *not* assume that there are any actual "conditions" which actually do connect S with M. If so, in the conditional judgment we shall have passed in part beyond the sphere of "ground" and "conditions" proper. For, though we certainly do assert that M must be P, we, on the other hand, set it down as doubtful whether, in S — M, S, as such, does not disappear. We profess our ignorance as to whether, in the issuing S — M — P, we still have kept an S which through change and development preserves its required identity.

What I have been urging here may perhaps become clearer to the reader if he will view what is really the same thing from another side. When we take a judgment, S— M — P, and qualify this judgment by the introduction of "if" into S — M, the result is as follows. We now no longer know how far, in and by our altered S — M, M itself has been affected; how far, that is, it has now ceased to be properly M, and so by consequence has ceased to imply P. The special ground, in

other words, which guaranteed the connection M — P, has, for all we know, been vitiated and broken up by the intrusion of our qualified and discrepant S — M.

But the simplest way perhaps of stating the difference between "if" and "because" is as follows. When in S — M — P we qualify our judgment by an "if," we do not mean that S under *all* conditions, and *therefore unconditionally,* is M; whereas in "S, because M, is P" this is most certainly our proper meaning. For in the latter case all the conditions (all, that is, which we need consider) are taken and assumed to be guaranteed by our ground.

"If," where it retains its proper meaning, must express that uncertainty which belongs to its essence. On the other hand, there are judgments conditional in form, where, nevertheless, all doubt seems to be excluded.* Thus, in *si vales bene est,* S is viewed as P, because it is M; and, in *si tacuisses philosophus esses,* we mean to deny that S is P, because certainly S is not M. Again in "If he had been honest he would be poor" we obviously are not doubting, but are really denying honesty. In the above judgments an uncertain possibility is stated or implied, but at the same time has been taken as excluded by fact either directly or through its consequence; and from this exclusion (which is certain) I arrive at my result. The doubt contained in the "if," the possibility of something being otherwise, is entertained here only for the sake of its exclusion. And hence the judgment, while conditional in form, is in substance not governed by "if." The essential meaning of "if" (we must, I think, so far agree) really can not in any case be certainty.†

I have now pointed out the difference between a conditioned and a conditional judgment, and have discussed the question merely in its logical aspect. The conclusion reached would, I think, be fully confirmed from another side, if we examined the psychological nature of Supposal. I must, how-

* Cf. *Essays,* pp. 37-40.

† In the above instances we are really entering the sphere of the Disjunctive Judgment, for the treatment of which I refer the reader to Dr. Bosanquet's *Logic.*

ever, content myself here with a passing remark. As to the main origin and nature of this mental state I have been unable to find any difficulty or mystery. When we have rid ourselves of the superstition of a mere floating idea, and have understood how every idea, however imaginary, still qualifies a real world—since the worlds contained for each of us in our Universe are various and many—the road in principle is clear. On the other hand, approached from any other ground but this, the problem of Supposal must, I think, remain insoluble in Psychology as in Logic, and the effort to deal with it can hardly fail, once again, to generate error.*

Leaving this digression, I must go on to enquire whether every judgment is not ultimately, and in the end, conditional. But, before proceeding, I will touch briefly on a minor issue. Is there any difference between a conditional and a hypothetical judgment? I am unable myself to perceive here any difference which is logical. Wherever you say "if," you for logical purposes can substitute "supposing that," and "supposing that" means logically (so far as I see) neither more nor less than "if." Certainly the use of the word "supposing" calls attention to the presence of a mental attitude; and hence an emphasis, greater than in the case of "if," is laid on this psychical aspect with all that it entails. But I can discover here no more than a variation of emphasis which leaves unaltered the essence of the logical judgment. The judgment, alike in the case of "suppose" and of "if," deserts at least to some extent the ground of the "real" fact, and up to a certain point is arbitrary, to say nothing of being also "in my head." But in these respects I can find no genuine difference between "hypothetical" and "conditional." The question as to how far either of these is really arbitrary and but "subjective" and mental, has been, I hope, in preceding pages sufficiently discussed (p. 614).

A judgment then (we have so far seen) is always conditioned. It is in every case mediated, though not mediated always explicitly and formally. Everywhere its genuine affirmation is that "Reality is such that S is P," and certainly in this "such" we have a real "because." Hence inference

* Cf. *Essays*, 375-7.

is no more than developed and explicated judgment, while judgment already on its side is inference, substantially, though not in actual form.

We are ready, now at length, to ask whether all judgments are not only conditioned but also in the end conditional; and this question has perhaps by now been answered already. With every judgment we fail more or less to include its conditions within itself, and, with every judgment in the end, we do not and we can not completely know what the entire conditions are. The "such," in our "Reality is such that," remains in the end and in detail not wholly knowable. Hence in our result we are unaware of the extent to which our S has really been modified. We can not tell how far it has been or may have been altered, or how far that alteration affects itself and M. There is a question therefore as to whether the necessary identity of S throughout the judgment has been maintained. And, since this question remains in the end unanswered, every judgment in the end is no more than conditional.*

The growth of our knowledge consists in a widening and in an increase of systematic mediation. The more the conditions of the judgment are, or can be, included in the judgment, the truer and more real, the less condition*al* and more condition*ed* does that judgment become. And the judgment that seeks to be at once true and at the same time a mere simple and unconditioned assertion of fact, implies the worship and the pursuit of an illusory abstraction. It involves the assumption of a false and perverted ideal of knowledge. Such a judgment, the more it attempts to assert itself as absolute, succeeds only the more in emphasizing itself as dependent on and subject to the unknown. On the other hand, a system of knowledge where all judgment and inference would at once each be the other and be perfect, is in detail unattainable. It remains an ideal, genuine and to be realized actually more and more, but never completely.

Such ultimate issues must, of course, to a greater or less extent be ignored, not merely in life but in theory and the

* I am of course assuming here once more (p. 632) that the Universe is not a mere conjunction, and that a *mere* conjunction is in the end an inconsistent and unreal abstraction.

special sciences. We are forced everywhere more or less to take up and to use facts in the shape of fixed realities, and more or less we are obliged to stand on unconditional and absolute truths. But since our real purpose here is not to aim at systematic consistency, we are permitted everywhere tacitly, at the demand of our varying needs, to shift our ground. And thus in practice we succeed, how completely I will not ask, in escaping by inconsistency from necessary ruin. But to follow such a course, at least knowingly and aware, is not permitted in philosophy.*

We have now seen that in principle and essence all judgment implies inference. The judgment which offers itself as simple affirmation is really, we found, an abstraction from the concrete fact. A similar result holds (we may further add) in the case of ideas. There is not and there can not be any such thing as a *mere* idea, an idea outside any judgment and standing or floating by itself. We have here again not an actual fact but an unreal abstraction. The essence of an idea consists always in the loosening of "what" from "that." But, apart from some transference, some reference elsewhere of the "what," no such loosening is possible. And, wherever you have this transference, you have (at once and with that) judgment. This truth is obscured by two causes, first by the diversity of the senses in which "reality" is used, and next by the difference between the various stages at which ideas, judgment and inference, exist. For the second of these reasons (to confine ourselves here to that) any one of the three, judgment, inference and ideas, can be plausibly shown as preceding the others. But really, here as elsewhere, what in every sense comes first is the concrete whole, and no mere aspect, abstracted from that whole, can in the end exist by itself. If we find it convenient to begin our study or our exposition with simple ideas or with mere judgment, that course is permissible—so long as we remember that things, in fact and principle alike, are not and can not so be divided. But the adoption, however legitimate, of an unreal order, entails (we

* On the above head the reader may compare my *Essays*, and I would further refer him on all the foregoing points to Dr. Bosanquet's great work on Logic.

may tend to forget) the ever-present risk of a real lapse into mistake.*

*On the above, cf. p. 597. And I would once more refer to my *Essays*, and further to the Notes which I have appended to the early part of this work.

ESSAY III

ON THE EXTENSIONAL READING OF JUDGMENTS.

In the following pages I propose to add to the discussion in this volume (Bk. I, Chap. VI, and Bk. II. Pt. II, Chap. IV) some further remarks on the extensional reading of judgments. All judgments assert an identity in diversity and a diversity in identity; and either of these aspects can be specially emphasized. This fundamental point I shall here consider to have been established, and shall stand on it in dealing with the questions which follow.

Can we (I ask this first) take every judgment as asserting a connection of ideal content in an individual subject? Certainly we can do this, I reply, since the Reality of which all is affirmed is a concrete individual. Hence it is clear that every judgment can be read intensionally; but does this mean that every judgment can be read *merely* in intension? In the end such a view is, I answer, not tenable. For the Reality, of which you affirm, can not be extruded and fall outside of that which the judgment asserts; and, further, this Reality can not in the end be taken as a mere system of ideal content. Such at least is the conclusion which I accept, and, if this conclusion holds, a reading simply in intension can not in the end be called possible.

Can then, on the other side, every judgment be taken merely in extension? Such a view to my mind is in principle vicious. For a judgment (we may so put it) says something "about," and this essential "about" seems obviously intensional. In the very denial of difference the denial is meaningless as long as it is bare, and unless it really also asserts ideal identity and so intension. And, again, the judgment that rejects the sameness of two things has a sense only so far as on the other side it affirms identity. For (not to speak of anything else) it implies the oneness of that whole in

and by which the things are together and are two. To banish intension from judgment is everywhere to reduce judgment to nothing.

There is hence no judgment which is barely intensional or, again, read merely in extension. And, so much being premised, I will go on to consider a further question. Can judgment be taken everywhere as asserting or denying about (i) an individual or (ii) individuals?

(i) If "an individual" is understood in the ordinary sense of this or that particular subject, the first of these questions may soon be dismissed. Quite obviously not all judgments affirm a synthesis of diversity within such a subject; and assertion plainly does not, in this sense, always fall within the category of subject and attribute. "A is equal to B," or "B is to the right of A," I have shown in this work go beyond either A or B singly.* And with universal assertions the same conclusion becomes perhaps even more evident. Judgment plainly is not always about this or that finite individual.

If individuality is otherwise understood, of course, our answer must be different. Every judgment and every inference depends (we have seen) on an ultimate whole, and, further, on a whole which is special. The inference or judgment is true only within and because of this individual totality, and it holds only so long as its individuality is unbroken.† But to find this individuality everywhere in the shape of what we call this or that individual would be to violate plain fact.

(ii) Are we then, leaving the single "individual," to fall back on a plurality of individuals or particulars? Can we, generally, understand every judgment as concerned with these particulars? And, further and specially, can we everywhere take judgment (where it is positive) as consisting in an assertion of their "numerical" identity or a denial of their difference? This would be the doctrine which, though not invented, was popularized by Jevons, and for myself I must associate this view with his name, though he failed, as I have shown, to apprehend its principle clearly. And I will go on

* See Index, *s. v. Subject.*
† See Index, *s. v. Identity.*

here to supplement the criticism already offered in this volume (pp. 370-88).*

Certainly there are judgments in which the above type is present. If you say "the voters are the shareholders," you obviously may mean to deny that, for a certain purpose and in a certain respect, there is any difference between the two collections. There is a synthesis of attributes, but in each case it falls in only one man—and you deny the plurality. And, again, with a single individual the same thing may hold. "The Pole-Star," we may say (again after Jevons), "is the slowest moving star" (p. 346). And here doubtless we may mean that, notwithstanding the duality of these differences, there is but one star.

But, when we consider judgments of another kind, such an interpretation seems excluded. There are surely judgments which make no assertion as to particular individuals; and we may take as an instance those which are at once universal and hypothetical. Here we must, I think, agree with Dr. Bosanquet that the above interpretation is untenable and is in principle absurd.† The idea that all judgments are concerned with individual particulars, to my mind also, is ridiculous, and any plausibility that it seems to possess depends on mere torture. On the other hand if torture, and unlimited torture, is admitted, I agree that the above and, I suppose, any other conclusion can be procured. And every judgment can even be forced into the form of denying the difference between individuals. It is worth while to consider how, in this case, such a perversion is possible.

The fundamental principle here at work is fortunately simple. Wherever you can make a distinction (no matter what that distinction is), you can (if you choose) take whatever is distinguished as being a distinct individual and a particular existence. For clearly, in your head and as a mental occurrence, every distinction has this character, and, however much else it is, it can be viewed as a psychical fact. It can be regarded as this event, and so again further, if you please, as this case or instance. Probability, for example, can be everywhere stated (as I have shown) by manufacturing a series of

* See Index, s. v. *Equation*.

† See his *Logic*, Ed. II, Preface, p. xi, and, further, *Aristotelian Proceedings*, 1914-15, No. XIII.

events and by turning reasons for belief into fractions of this series. Our logical grounds are taken here as psychical occurrences. But, though this method is possible, we surely must add that, as an expression of the general truth, it is but error and mere artifice (see pp. 224-6). However, on the same principle and by an artifice no more rational, all judgments everywhere can be tortured into the form of an asserted "numerical" sameness between particulars.

Where we have "if" we can always, if we please, substitute "in the case of," or even perhaps, by a stretch, can write "in the event of." We *mean* here "if it is so that," or "upon the assumption that." And yet because of "*this* being so," and because *this* assumption is involved, we may take ourselves as landed in the world of particular events. For whatever I attend to, so far as I attend to it, is (we saw) this particular fact. and every idea of mine is one occurrence among others. Nay, to emphasize this aspect may even be right—that depends on your purpose. But, on the other side, because so much is true, to treat it as the whole or main truth —to conclude that what your idea means is always a particular fact, and that judgment always is concerned with and refers to such events—would surely be monstrous. It is as if you argued from "Every true judgment is one occurrence" to "Every judgment is therefore about particular fact;" and then perhaps went on to aggravate your fallacy by adding that, though the judgment is one, its real meaning lies in its being two, and in its denying that this is so. And, if you choose to take the truth of a judgment as one particular event or case, you can just as easily show, I suppose, that your two different facts are really nothing but diverse attributes of that single particular subject. With torture anything is possible. Consider, for instance, "if justice is an absolute good the Universe is evil." Here there are two particular events, two cases of Reality—and we mean to deny that they are two. Or we have one particular fact, the truth of our judgment, and we take its singleness as the union of its internal attributes. But in either process we, I submit, employ torture to gain a mere travesty of the truth.*

*To illustrate further (if that is necessary), in "A is to the right of B" we are to mean, I presume, "The case of a spatial A (or of

Returning from this we may resume briefly our main conclusion. Every judgment is a whole which unites inseparably the two aspects of diversity and identity. Through various judgments this indivisible union appears in different forms, but it remains always essential. To suit a particular purpose we may lay a special emphasis on one of these aspects, but to seek really to separate them brings everywhere the destruction of our judgment. Indubitably there are judgments which deal with finite individuals and with facts that are particular. And, further, there are judgments whose meaning lies in asserting or denying of these particulars what is called "numerical" sameness or difference. But the attempt to verify this latter type in all judgments, or even to show that judgments everywhere are really concerned with "individuals" and with particular facts—seems misguided and futile. There is (I have pointed out) a necessary aspect of judgment and ideas which lends itself naturally to misunderstanding and to misuse. And by virtue of such misuse the above attempt, however perverse, may gain a moment's plausibility. That is dispelled when on one side we insist on the genuine and essential meaning, and when on the other side we contemplate those processes of torture which its rejection may entail. Such distortions can not serve to elicit and express the living truth. The outcome of their violence is but convulsion and in the end dismemberment and death.

this spatial A) is the case of its standing to the right of B." And "A is not to the right of B," I suppose, really says "The case of A is a case of the absence (or exclusion) of A standing to the right of B."

It is on the same principle and in much the same way that we can everywhere use or misuse the idea of "class." In this connection I noticed (*Essays*, pp. 285-6) the instance of "being," or, we may say here, "reality." Since, in all that is, we can distinguish "what" and "that," we can turn these distinct aspects into particular facts; or, again, we can take them as separate headings, and so, further, as classes in the shape of collections. But on the results which may follow from this latter course I have here no space to remark.

ESSAY IV

UNIQUENESS

In what follows I shall attempt to deal briefly with the subject of Uniqueness.* The questions involved are however so wide that, in order to be brief, I am compelled to be more or less dogmatic.

Uniqueness has two aspects, one negative and the other positive; and I will take these in order.

(a) With regard to the negative aspect there is perhaps no doubt. When one calls a thing unique, one denies that this thing, as far as it is unique, is one of a kind, sort, or description, so as to be or become an instance or example. The thing may be "such" in certain respects, but it cannot be such so far as it is unique, and hence it does not admit of another such. On this, its negative side, the meaning of unique is perhaps fairly clear.

(b) But negation, here as elsewhere, implies and rests on a positive ground. And it is the affirmative aspect of uniqueness which we must now seek to understand. This aspect is, in my judgment, the same as individuality or self-containedness. It is the positive inseparable oneness of "what" and "that." These aspects are taken as being in the thing so that neither, as far as the thing is unique, can for any purpose leave the other. Hence the "what" can not be loosed from the "that" so as to slide away from it and be applied beyond it. There is hence in the unique no ideality or self-transcendence, except so far as this is still contained within the limits of the individual. Its character, however much developed, can never overpass itself; and the unique can never itself fall under a class or ever have "another such as itself." This indissoluble union of being and quality I take to be the positive aspect of uniqueness, and it is solely upon and by virtue of this ground that the denial, and the entire negative aspect, is possible.

* The account given in my *Essays* (see the Index) requires some revision, and perhaps correction, in the light of what follows.

Certainly for uniqueness it may be said that both these aspects are required. An individual, it may be contended, is not properly unique until the suggestion that it is one of a sort has been offered and repelled. And, apart from an emphasis on this denial, the mere affirmative foundation, it will be urged, has no right to the name unique. The question thus raised I do not propose to discuss, and in what follows I shall consider mainly the positive basis of uniqueness. Whether apart from negation this basis is strictly to be called unique, the reader may decide as he pleases.

Before proceeding I will however deal with a minor difficulty. There are cases of uniqueness, I may be told, where the negative aspect is impossible. The Universe, for example, is doubtless unique, and yet the suggestion that the Universe is one of a kind is not only false but impracticable. The negation, therefore, being here absent, may cause a doubt as to the uniqueness. This objection would rest on a mistake. We have already possessed ourselves of the distinct aspects of "what" and "that," and of the general idea of a kind or class where this distinction is further developed. Hence we have an idea applicable, we may say, *prima facie* everywhere, and our attempt to apply this idea to the Universe is possible and natural. We certainly find here that our suggestion is repelled and that in the end it is meaningless. On the other side its repulsion is an actual fact, and hence, here as everywhere, the negative aspect of uniqueness is possible, even if we hesitate to add that it is everywhere essential.

Passing from this digression I will ask the reader to notice two important distinctions. A thing may be unique (a) either absolutely or relatively; and it may be unique again (b) either in its essence or merely in fact. These two distinctions we shall find to be at bottom identical.

(a) Anything is unique relatively when it is so because within a limited region or sphere. There is some part of the Universe which for a certain purpose we regard as unique; and, as belonging to this part and not otherwise, the thing itself is taken as in consequence unique and exclusive. Its uniqueness, therefore, is not its own but depends on a condition outside itself, which condition, again, is not viewed as the

entire nature of the whole world. We rest here on an assumption, more or less grounded or arbitrary, or, again, on some region of the world which, being found as unique, bestows that character on its contents. The uniqueness here does not belong to the nature of our thing by itself, and is not possessed by that thing in its own right. On the contrary the uniqueness is borrowed and conditional, and so merely relative. If indeed we could show that our thing itself possessed its own character by virtue of its individual place in the one Universe, this separation of relative from absolute uniqueness (the reader will observe) would be valid no longer.

(b) I pass from this to the distinction between the uniqueness which holds in principle and that which merely exists in fact. A thing is *de facto* unique so far as we merely find the absence of any other such thing, and where we can not say that the thing by its own nature excludes this other. Obviously to my mind we have here a form of relative uniqueness, and hence the second of our two distinctions is included in the first. The mere fact that, in my world of thought or perception, a thing is found to be thus, means that the thing, so far, has this character conditionally and relatively. For mere "matter of fact" reduces itself everywhere to an unknown condition by virtue of which the thing comes to us as being so and not otherwise.* And uniqueness *de facto* is merely relative because you can not take it as contained or implied in the individual's own essence. It attaches itself to the thing only as borrowed from, and as relative to, an external condition.

We have seen now that uniqueness has aspects both negative and positive, and we have asked in what the positive aspect consists. It consists, we found, in the indissoluble union of "what" and "that." A thing which is self-contained is unique. And we went on from this to point out the distinction between uniqueness understood relatively and absolutely. In what follows I shall confine myself to uniqueness taken as both absolute and positive. And I shall proceed to ask where, if anywhere, such a character can be found. Some claims that

*On "matter of fact" cf. my *Essays*, Index, s. v. *Fact*.

have been made to positive and absolute uniqueness will be taken in order.

(1) The case of the Universe (to take that first) seems free from doubt. Any distinction, or any loosening of "what" and "that," can take place only within the Universe. Hence, as applied to the Universe itself, the idea of "another such" is self-contradictory, since the "other" can fall nowhere but in the Universe itself. The idea (we saw) is possible in the sense that the suggestion can be made; but, as soon as made, it turns out to be self-inconsistent and really meaningless. The Universe is in principle self-contained and is absolutely unique.

(2) Let us consider next the case of a quality taken by itself, not perhaps as simple but without any reference to anything beyond, and free from all separation of its "what" from its "that." Such a being we must, I think, call absolutely unique, since the idea of "another such" has been by our definition excluded. The quality has been assumed to be by itself a self-contained world. On the other hand we may doubt if such a being should be termed a "quality," and we must decline in any case to accept it as more than an unreal abstraction. But, if these objections are ignored, we can, I think, agree that, taken as defined, the above quality must be unique.

(3) I pass from this to the case of a plurality of qualities, or (let us say) a number of self-contained individual beings. Where you have a Many, each of which is somewhat, each (it may be urged) is unique. For each one of the Many, it would seem, must have a character particular to itself. We should, however, begin here by laying down an important distinction.

Each of the Many may, first, be taken as dependent on a Whole, and as possessing its own nature so far as it fills a special place in which it realizes that Whole. Or, secondly, each single being may be viewed as owing nothing to any world beyond itself. The Many will here be a number of self-contained self-existent particulars. I shall for the present confine the enquiry to this second alternative, and shall ask if each of such many particular beings is unique?

If we accept them as offered, we must, I think, agree that our answer is Yes. Since each particular is taken as self-

contained, there is no possible reference beyond self, nor any loosening of the "what" from its union with the "that." The suggestion anywhere of "another such" seems excluded in principle, and there is nothing in the whole world (as we have taken it) which fails to have absolute uniqueness. So far perhaps we may answer without hesitation.

But when we enquire if beings or qualities, as above defined, are really possible, or whether on the contrary they are no more than self-contradictory abstractions—our reply must be different. We must insist that such beings are not unique, but on the contrary, are impossible; and I will briefly state the well-known difficulties in the way of a different conclusion.

By the definition we are obliged to take our beings as many, and we are ordered to confine the nature of each absolutely within its private self. But these two characters, though both necessary, seem one to exclude the other. Diversity, distinction, plurality, all seem to have a meaning only within a whole, and, apart from a whole, seem all abstractions in the end meaningless and unreal. The natures of the Many are therefore not each merely self-contained, because, if you extirpate from each every reference beyond itself, you have no maniness left. "And"* has no signification except as the expression of a containing whole, and diversity apart from identity has lost its sense. The required particulars therefore are self-contradictory. And you can not escape by drawing a distinction within each of separate aspects; for such a road leads to a division into fresh particulars, with regard to each of which the same dilemma results. If the Many are not each itself beyond itself, they have ceased to be many; and, on the other hand, whatever fails to be self-contained is not individual and unique. Hence the particular beings which, if they were possible, would each be unique, prove to be mere abstractions. And these, because in principle self-discrepant, are unreal, and in the end are senseless.

And if, leaving such arguments, we appeal to fact, and attempt to find uniqueness there in the shape (let us say) of some found quality, we are baffled persistently. What is given

*On the whole of the above, and specially on the meaning of "And," see my *Essays*, Index, s. v. *And.*

to us is, for instance, not "blue", but is always "a blue"; and it is a blue, we may go on to see, of a certain sort. And in our "blue" we are able to produce and show neither the universal by itself, nor again that specification which makes the particular blue. Further, what is given has degree, extensive or intensive or both; and it is tinged again by "feeling" in various senses of that term. And we can neither exhibit these differences each by itself, nor understand how in a given case they unite to make our unique particular. Nor, even with so much, have we reached the end. For the diverse appearances of our quality in space and time seem, I may say, even obviously to belong to it. And since we can neither take these apart from our quality, nor understand the difference which each makes to it, we discover that in the end we are ignorant as to what it is which we are calling unique.

Returning to our main point let us ask in what way the objection raised in principle to a plurality of self-contained particulars can find an answer. There are two roads, so far as I see, by which we may endeavour to escape. We may either (a) deny the truth of the arguments used, or (b), abandoning argument, may fall back on what is called "designation."

(a) The objections raised above against the reality of mere particulars, are (it may be said) founded on error. If every distinction means something diverse, on the other hand diversity (it will be urged) involves in principle no aspect of identity, and plurality implies no unity or whole. Whatever is distinguishable is everywhere a separate reality, a being different from all others, self-contained and unique. What is beyond these unique reals—beings which, each and all, to one another are nothing—is merely relations. But these relations, themselves again particular beings, are, once more, external, each to all else. And hence they make no possible difference in reality, any one of them, to anything whatever beyond itself. Here therefore we have uniqueness, and in the world there is nothing, actual or possible, which fails to be unique. The question anywhere as to "another such" is even devoid of meaning, since (to go no further) the word "such" is absolutely senseless.

No one, if I rightly understand, ventures openly and con-

sistently to adopt the position just stated. And all that I propose to add in the way of criticism is to point out an obvious consequence. Every appearance of "togetherness", of totality, of unity or identity, is, so far as I see, on this view a mere illusion. And the fact of the illusion, on the other side, is not only inexplicable, but also, on this view, has become a thing inconceivable and impossible in fact.

(b) In the second place, abandoning a road which (as we have seen) leads logically to nothing, we may agree that in a sense unique particulars are indefensible. We may recognize that we can neither deny within each particular an aspect which goes beyond its private limits, nor show how this admitted aspect leaves its privacy unbroken. But on the other hand we may urge that, if in a sense unintelligible, unique particulars still are given facts. And facts will stand without support from or even counter to logical demonstrations. We hence, while unable consistently to define "thisness", are, in despite of all arguments, not robbed of our "this." An appeal, in other words, is made to that which has been called "designation," and the real question raised is as to uniqueness as claimed by the "this." And I must attempt to deal briefly with this difficult problem.*

(4) Whatever comes as "this" offers itself, I agree, as positive and as self-contained, and so as unique. But it does not follow from the above that the character of the "this" is self-consistent, or that the "this" fails even to offer itself as also passing beyond its own limits. Uniqueness however, I agree, is claimed by the "this." And, when we take the "this" so, its negative reference to "that" seems secondary and not essential. Internally the "this" may contain an indefinite diversity, but all plurality within it is (so far) subject to its immediate oneness. It is thus (so far) unique because admitting no transcendence, no disruption (that is) and separation of "what" from "that."

But for us to remain everywhere within the stage and the limits of feeling is of course impossible. If we are to know, we must understand. We must use ideas and accept relations

*On the nature of the "this" see my *Appearance;* and on "designation" compare my *Essays.* See the Index.

such as enter into and yet transcend and, so far, break up our "this." And, committed to such a course, what can we answer if the claim of feeling still to be unique seems inconsistent or unintelligible? The Paradise to which one returns, unless one's self could come back unchanged, is Paradise no longer. And, here or anywhere, an escape by "intellectual intuition" is a deception now long ago noted and beaconed.

And, even if we confine ourselves within feeling and keep to the "this," how far, really and throughout, is its character self-consistent? We have not only its movement to expand beyond itself through continuity of content, but we have also the tendency of its internal aspects to become each a "this" against "that," and so to rupture its given unity. Still, so far as we fix this instability by an effort, however unnatural, such difficulties, I agree, though not solved, may perhaps be suppressed. It is otherwise, I think, when we are confronted with the experience of change. Change offers us, at once and in one, both what is and what was, and we seem presented here with a jarring conjunction of Yes and No. And if in change we find also a "not-yet," we have, with this, a feature which, even apparently, is ideal and transcendent; while to add an experience of anything like activity does but heighten our trouble.* We must meet this difficulty, I presume, by insisting that externally the "this" has fixed limits, and that internally it somehow holds its diversities together without collision.

But how if the assumption on which we rest proves in fact to be false, and if externally the boundary of the "this" is wavering? With such a doubt the claim of the "this" to be self-contained is untenable, and can the doubt be removed? On the side of the past, or of the future, or of both at once, we have the question as to whether in fact the given "this" has fixed limits, or whether in fact it is at once actually within and outside its own boundary. In the seen flight of an arrow, have we one "this" or many? If there are many, then how, if each is self-confined, is the seen flight one? And, if the flight (however short or however long) is to be one given "this," then what are we to say when we go on to observe the slow descent of a balloon? In the face of these familiar objections it is no light task to insist on fixed limits for the

* On this point see my *Appearance*, the Index, *s. v. Activity*.

given "this". But, if we fail here, the "this" has forthwith ceased to be really self-contained and particular to itself.

So far as I can judge from observation, this last result is certainly the given fact. At least on the side of the past the "now's" limit is wavering, and we experience in change a "now" at once both within and without itself as something which at once is and was.* And here without remedy the claim made for the "this" seems ruined. However it may offer itself otherwise, its character actually is not self-confined and unique.

If we are asked then if the "this" is unique as being something positive and self-comprised, we must reply by a distinction. Certainly on one side (we may say) the "this" offers itself as being so; but then its internal character, on the other side, when we consider that, seems not consistent or self-contained. And further we are forced on inspection even to admit that, while the "this" comes to us as unique, it also comes to us as otherwise, and offers itself also as passing beyond itself. In any case to take the "this" as a mere particular was a position (we saw) in which we can not and ought not to remain. So far therefore we are unable to justify a claim made on behalf of the "this" to absolute uniqueness. On the other hand we may agree that about the "this," as again about the diversity of qualities, there really is something unique. We have something here at once positive and yet not resolvable wholly into an aspect of "such". But what in the end this "something" is we are unable to say; and, attempting here to advance, we do but turn in a maze of repeated dilemmas. The aspect which we claim to have found we are unable to produce, nor can we show that, if produced, it would not more or less belie a character due to our partial apprehension.

(5) Leaving the attempt to discover uniqueness in mere self-confined particulars, let us ask if the individual, and so the unique, can be taken otherwise. As regards the one Universe we have already (p. 650) disposed of this question. We

* See my *Appearance*, pp. 40-41 (in any edition). With regard to the limit of the "this" on the side of the future, I find myself now (I may add) far less inclined to admit its fixity.

must now deal with the case of individuals that are finite, as being less than the Whole. How then, and in what sense, can such a finite individual be really unique?

Let us suppose that the Universe is a perfect system, at once determined by and determining its contents. In such a Whole each member would be characterized completely by its own place and function in the system. And clearly, taken so, each member would, if still finite, be none the less individual and unique. It would belong to a sort in respect of any of its attributes, but of itself there could not possibly be ever more than one, and itself could never be made an instance, or could appear as a member of and in a kind or class. And such a being further would be self-contained, since none of its content would pass beyond its own proper area. The self of its self-transcendence would be that which for ever flowing back would but fill and define its individual limits. Hence such a finite individual would be unique, unique relatively, and also, and at the same time, absolutely. And itself would be perfect, and yet, again, in degree still more perfect and still more unique, the more it contained of the total Universe—the more of the Whole (we may say) that was made, and that it made, into itself. Here at last we find the true idea of individuality and of uniqueness; and here, cleared at a higher level, we can look back on those problems which, forced upon us by the "this," were left behind unresolved.*

For myself I accept in principle the doctrine just stated. It not only to me is true, but it possesses a bearing and importance which, I think, it would be hard to exaggerate. On the other hand the actual presence of such unique individuals can not (I have to add) by our observation or thought be verified in detail. Or, though certainly that presence is verified, we cannot exhibit the principle anywhere in any individual as realized perfectly in fact. Its full and assured reality lies in a region in and through which all intelligence lives and to which it all points, but which is, on the other hand, beyond that which can be actually observed or throughout

* See here Dr. Bosanquet's *Logic*, II, 260-1; and compare also other works by the same author. The reader (by the way) will not fail to note that, so far as there is more than one thing unique, these things will be classable in respect of uniqueness.

understood. Every finite individual is hence on one side imperfect in a varying degree. It never is quite harmonious with itself, nor is it ever fully self-contained; and its existence and its content fall for our vision always more or less apart. Perfect uniqueness and individuality remain therefore in one sense an ideal. That ideal is realized beyond doubt, and is realized everywhere in a greater or less degree; but visibly it is nowhere realized in complete perfection.

Every individual is in some sense perfect, we may be assured, in its own rank and place; and, in its very striving for perfection, it is already, beyond our vision, itself unique and complete. But, when you ask to be shown exactly what each individual itself is—that detailed understanding remains in the end unattainable. For religious faith doubtless the case here is otherwise, but even for such faith the detail is, again, at a certain point unknown. How much of each individual self is the realization of its own perfect and unique being, and how much in any case must fall somewhere outside, we are unable to see. And no true religion, we may add, will seek to justify, whether in this world or in any other world, the perfection of the individual, if taken by himself; nor will it anywhere think to escape from the grace of God and from the life gained only through constant dying.

We have found then that that which is absolutely unique is, first, the Universe itself, and, next, the finite individual made self-contained by its special place and function in that Whole and in subordinate systems. We have here a self, made singular in and by its own passage beyond itself as one member of an organism. And uniqueness in this sense is even to be found in fact, and as realized in varying degrees of existence. On the other side we saw that, because nowhere visible in perfect detail, this principle remains for our intelligence an ideal beyond fact.

In these pages I have pointed out the negative and again the positive aspects of uniqueness, and have shown in what the latter must be taken to consist. I have distinguished the uniqueness which is relative and borrowed from that which is absolute. I have asked, then, where absolute uniqueness can be found. The Universe, first, is unique; and, next, the finite

individual, determined and characterized specially as one member in that system, attains absolute uniqueness. Though such a self-contained individual (like the System itself) remains in a sense an ideal, yet here alone (we saw) we have arrived at our end—an end sought blindly by the self-existent particular, whether as being or quality—an end again ambiguously and inconsistently offered by the "this". The puzzles and the contradictions, left unresolved, can be remedied (we found) but in one way, and solely by the principle of an individual that gains by a special self-transcendence its own singular reality.

ESSAY V

THE "THIS"

The nature of the "This" has been discussed in my *Appearance,* and I have returned to the subject in my *Essays* and in preceding pages of this volume. There are two points however which call here for some further notice.

(1) In the present work I clearly gave an undue importance to the "this" of *external* perception. Even if there is no actual error, there certainly has been here an undue emphasis. For the "this" is present just as much in mere internal fancy, since it belongs everywhere to that which is immediately experienced. An act of attention, for instance, is "this," "mine," and "now," even if we hesitate to add "here." "This," "my," "now," and "here" have their special character because, in a word, they all are *felt.* They are each an aspect of immediate, or (if you please) of personal experience. Feeling may be either used of the whole mass felt at any one time, or it may again be applied to some element in that whole, so far as that element is emphasized, and felt, as we say, more intimately. But, whatever shade of exclusion or contrast may colour its meaning, that meaning remains unchanged. It rests everywhere on positive unbroken oneness with the feeling centre, though that centre may be taken (we noticed) in a narrowed sense. "Now," "my," and "here" must (in short) be regarded each as a special aspect of "this"; and "this," belonging essentially to the felt, can not be confined merely to that which comes as an external perception.

(2) On another point the reader will find an overstatement which amounts, I think, to actual error. There is a question raised as to how far the "this," as an idea, can be predicated beyond the limits of the actual "this" (pp. 63-9). And, without discussing directly what in these pages was laid down, I will point out how the problem, in my opinion, is solved.

It is in the first place, I think, clear that we have ideas alike of "this," "now," "my," and "here"; and it seems evident further that these ideas are used of that which itself is not experienced immediately. We may take for instance our imaginary worlds, each with its own unique "real" series; and then, within each of these, we may suppose other worlds pictured, each in the same way by its imaginary inhabitants, and so on indefinitely. Now everywhere here we certainly use throughout ideas of "this," "now," and "my," and no less certainly we apply these ideas beyond our own immediate experience. We thus appear undeniably to transcend our present "this," while on the other side our whole universe of worlds, real and imaginary, actual and possible, seems in the end to be based on our one given point. And the question is how these truths, which apparently conflict, can be reconciled.

Everything, to be in any sense real, must hold of the one Reality. And the felt "this" is therefore, so far, the real Universe. On the other side, while the Universe is the "this," it also is more and beyond, and it contains within itself other "thises" innumerable. Hence my "this" is at once the whole Universe and itself also less; and, as less, it is but one appearance of the Reality. The idea of another "this" can accordingly be predicated beyond my "this now," since it is predicated of the Reality which, appearing in the "this now," at the same time is beyond that limited appearance. And, so understood, the transcendence of the felt "this", by other cases and ideas of it, seems justified.

But this transcendence, taken in a different sense, remains impracticable. You can not in the end with truth abstract wholly from the "this now," and indeed there is nothing in the Universe from which in the end you can so abstract. For suppose your "now this" abolished, the predication of any idea, whether of "this" or of anything else, becomes forthwith impossible. The entire real Universe, inseparably one with your "this," would itself have followed its removal. And hence every idea (you may say) is affirmed of your "this," since every idea is true only of that Reality from which your "this" is indivisible. At the same time the Reality, including more than any one of its elements, can naturally accept ideas

which hold beyond the limits of your "this". We have found here in principle, I think, the solution of our problem.

It is plain from experience that on the one hand we possess ideas of "this," and that we apply such ideas beyond the limits of our given present. On the other hand it seems clear that we not only start from the given "this," but remain resting in a sense on that foundation throughout. Our whole ordered Universe we may call a construction based on immediate experience.* Hence we never leave our "this," since we keep perforce to a Universe indissolubly one with it. On the other side that Universe, immensely wider than any special "this," carries us and our ideas, with itself, beyond the bounds of the felt present. From the above ground we may, I hope, correct what in this book is erroneous. But if the reader asks how in the end the one Reality has such a character as to appear in various special diversities—I would once more repeat that to my mind no explanation is possible.

* There must again of course be some stability in the character of that which is felt and given, or no construction would be possible. This is, however, a further point on which I am not engaged here. See on p. 477, note.

ESSAY VI

THE NEGATIVE JUDGMENT

On this subject there are serious mistakes in my book, and its treatment of certain points is perhaps superficial. I might plead in excuse my desire to remain, so far as I could, on the ground of Common Sense, and not in logic to enter on ultimate questions. The result in any case was partial failure. But I have since adopted in principle the doctrine put forward by Dr. Bosanquet, and what follows is, I think, in the main due to him. I must however be allowed to state more or less in my own way the view which I now accept.

Every judgment has two aspects. On one side it holds of the ultimate Reality or the whole World. On the other side it judges of that world as appearing in one emphasized feature.* Every judgment therefore is selective, and marks a distinction (we may say) singled out from the Universe. We everywhere refer specially to this or that, and "specially" means that we do *not* refer to the rest—at least in the same way.

Hence in all judgment you have a whole in which you take one feature ("this"), and distinguish it really, though not always formally, from another feature ("that"). For the reader will observe that, through your selecting one point in a whole, the residue becomes *ipso facto* another point, itself also now contained in the whole. Hence, in asserting "this," you in effect deny that it is "that," and you thus affirm a universe in which are two differences, each one of which, you find, excludes the other. Thus every judgment is in essence, though not explicitly, both negative and disjunctive. And disjunction within a whole is the one way in and by which in the end negation becomes intelligible.

Judgments are of course not all negative and disjunctive explicitly and consciously. And no one, I think, could maintain such a thesis, unless he confined himself to judgment

* See Essay II, p. 629.

as it exists at a high reflective level, where we not only do but at the same time are aware precisely of what we are doing. But ideas and judgment exist (we know) really at a variety of stages,* and that which is implied in principle need not be before our minds at the start. Hence you do not show that judgment fails to possess a certain character essentially, when you point to the fact that this character is not everywhere noticed and recognized.

When in an early judgment I say "Here is this," and so select one feature from the universal mass, I do not of course explicitly deny that which my judgment neglects. I do not, that is, in putting "this" on one side of my world, consciously place any "that" on the other and excluded side. On the contrary I emphasize one element in my whole while disregarding the residue. But this residual mass, none the less, is there, and is actually experienced. And hence, even at this stage, I am in some sense positively aware of a totality which includes in itself both an aspect emphasized and an aspect ignored.

Selection, however involuntary and unconscious, is present in judgment from the first, and this selection involves (we may even add) Choice. It contains, that is, not the developed act but the underlying principle of choosing. Its distinction implies the affirmation of a whole which is, and offers, both "this" and "that," while it (at the same time and no less) *is* the one and is *not* the other. Our "universe," as the conditions vary, brings forward or puts back now this feature and now that, and, according to the conditions, it hence shows itself as "either," and it is itself one or the other alternative. A long road, I agree, separates our first distinction from such a conscious result, and from our acceptance of the world as an ordered system, a scheme of distinctions where each at once excludes and affirmatively qualifies the rest. But the way is traceable, and its course would show how the ultimate end is present in a sense at the start, and does but throughout develope and come to a knowledge of its own active principle.

Referring the reader here in the main to Dr. Bosanquet's *Logic,* I will now further enlarge on the result we have

* See p. 626 and the Index.

reached. Negation everywhere has a ground, not on one side merely but on both sides. There is a reason, a positive character, on account of which " this " excludes " that," and " that " again on its side is opposite to " this." There is no such thing as a distinction which, merely adventitious, supervenes wantonly, or is superimposed in the absence of a ground. And thus distinction and negation determine and qualify, even if in the end we can not everywhere show how precisely they do so. And it is useless to urge that, where we start with the mere ignoring of a residue, or where we are confined to a bare exclusion, the selection upon a ground, in at least such a case, is obviously not there. Such objections mistake, I would repeat, a mere abstraction for given fact. For where we distinguish in effect, and where we in any sense experience some element as at once present and ignored, we are already above the stage of bare exclusion, if indeed anywhere that could exist. And a distinction grounded on no difference may certainly be called a monster incapable of life except within a one-sided theory.

I can not offer here to show in passing how all distinction and analysis takes place only within and by virtue of an active whole, and how again contrary opposition is based on identity. We have in " opposition " the movement of differences to occupy, through their partial identity, simply the same point, and so to qualify at once both that point and each other.* Diversity as experienced implies partial sameness, identity, not only general and in the Whole, but specially in and of subordinate groups. And hence exclusion rests everywhere on the tendency of " this " through partial sameness to qualify " that." It is the above attempt and its frustration that, after we have reflected, turn our rejection into conscious denial. But from their first beginning distinction and negation are grounded. They come to being only within a Universe pervaded and ruled throughout by identity and difference, a kingdom which through these alone can separate and re-unite and order its elements.

My world contains everywhere a reason why " that " seeks directly to make one with " this," and why it fails to succeed, and why in consequence I am led to hold both of these, dis-

* The reader is referred to the Indexes of this volume and *Appearance*, s. v. *Contrary.*

tinct each from the other. There is a ground which on each side must qualify whatever I distinguish, and, in order to understand my world, I must seek everywhere to bring this ground to light. Hence I have to turn my experience into a disjunctive totality of elements which, according to the conditions, explicitly imply and negate one another. It is through their reciprocity that I, however unconsciously, aim at a system, which thus determines its contents by one another and itself in and by them all. This task, I agree, can never be accomplished in full. But we have seen how in principle it is laid on us from the first, and how negation aids and is essentially implied in all positive construction.

I pass from this to ask how far negation is "unreal" and "subjective." My book is faulty here owing to its acceptance of "floating ideas," and through its failure to recognize that in its own sphere every idea has reality.* Discarding this error we may say at once that all negation is real, and that it is real just because it is relative. The content which it denies is never excluded absolutely. Far from falling nowhere, that content qualifies elsewhere the Universe. In this other region it owns positive truth and reality—whatever may be the amount and final character of these, and whatever the conditions under which, however much transformed, the denied content finds its goal. Unless you have a meaning and an idea (we may remind ourselves), you deny nothing; since an idea is needed for denial, and since a meaningless idea is none. And on the other side, wherever you have an idea, that idea (we have seen) has reality. And its negative relations to other things real (we further saw) belong to and qualify our Universe, even where we fail in the end to perceive how in detail this result is verified.

Hence, again, negation is not "subjective." You may, when it is compared with affirmation, call it, if you please, more "reflective", in the sense that we, perhaps generally, know that we assert, before we know that we deny. But such prior or greater awareness is irrelevant to the point here at issue. The distinctions in our "objective" world do not become merely "subjective," because we can be said to make

* See the Index. In the whole of what follows I am much indebted to Dr. Bosanquet's *Knowledge*, etc., pp. 214 foll.

them or again because we know that we make them. On the contrary they form the essential structure of that world. The attempted suggestion which our denial repels rests (we saw above) on a real identity in that which has proved incompatible; and a real difference under that identity is asserted in our rejection. Negation in short implies at its base a disjunction which is real, and its goal is to set before us reality as a systematic and explicit totality of complementary differences. To such an ideal world (I would repeat) we can not wholly attain, and even in principle any such world falls short of ultimate truth and reality.* But on the other side our result approaches and embodies that perfect end with a fulness and actuality far beyond that gained by any mere affirmation. For the simple positive is no more than a one-sided abstraction, that, like mere "matter of fact," lies at the furthest remove from final reality and truth.

If you confine your real world to one asserted position and identify this one position with the Universe, then, with this (if it were possible), negation, I admit, has become barely "subjective." What is rejected falls nowhere, since now it has not anywhere else to fall; and on the other side even its exclusion has by consequence become unreal. The process now is nothing except so far as it can be taken as happening in me, and is thus regarded in the character of a mere psychical event. So viewed it becomes "subjective," just as again the "imaginary," if my "real world" is identified with the Universe, is called "subjective." But a mere one-sided exclusion (we have seen) is no real negation. It is, like pure nothing, an abstraction from the relative turned into absolute fact. And in the end it is self-contradictory, if not quite meaningless.

The objections urged in my book (p. 120) Dr. Bosanquet has shown to be invalid.† It is true that, in saying "No," we may turn away from an idea without considering or caring where it falls, and that here our emphasis lies on a rejection which seems to leave our positive ground unaffected. But in such a negation, made, as we say, for no reason, we may fail to realize the extent to which we are accepting a mere abstraction as fact. Real assertions and denials (as

* See *Appearance*, Index, s. v. *Truth*.

† See his *Knowledge*, etc., pp. 226 foll.

Dr. Bosanquet has so well insisted) are made always with some intention, and never apart from a certain interest. We have a reason always why we make them, and this "reason why" is a ground which never fails to qualify our original position. On the other hand, where we do not know why we deny, we naturally in consequence can not say exactly what we mean by our denial, and how that qualifies our positive basis by a special re-assertion.

In the instances given (p. 121) our denial affirms throughout an identity and a difference between the soul and a variety of objects, and it in each case emphasizes only the mere fact of an unspecified difference. But none the less it has asserted all these objects as members of one Universe along with the soul. And these specific objects, if so, are all related to the soul, and, so far as they are different, are all related diversely. This diversity affects throughout, in my view, the relation, and it certainly also must qualify the soul. We may not know, and in the end may be unable to discover, in what everywhere the different qualification consists. But, if at least we view the Universe as a whole which is reciprocally determined throughout, such a qualification must be there. Since however, for our present purpose, we are quite indifferent as to what it is, provided only that it excludes, we can take this qualification as being everywhere the same. But, except from an abstract and one-sided point of view, such a conclusion is false.

Dr. Bosanquet (*ibid.*) has here rightly adduced the case of purposeless affirmations, which equally appear not to qualify their subjects. Fresh truths, for instance, that I have learnt about the number three, may seem to assert really nothing new about Cerberus. But, as far as a judgment is purposeless and useless theoretically, it so far, we may say, is not any real judgment. It is either meaningless, and, if so, as a judgment it is nothing, or else its meaning and consequence fall somewhere beyond that knowledge which at the moment we possess. We must hold on to this truth in the case of affirmative judgments, and apply it, certainly with not less strictness, when we deal with negation. But, for further discussion on the nature of the negative judgment, I would end by referring the reader once more to the works of Dr. Bosanquet.

ESSAY VII

ON THE IMPOSSIBLE, THE UNREAL, THE SELF-CONTRADICTORY, AND THE UNMEANING

A few remarks on the above terms may perhaps be useful to the reader. They cover so much ground that a full discussion of their meaning would involve most of the main problems that trouble philosophy. And I can offer here but a summary statement of some views, which I myself accept and think it may be well to submit to the reader.

I have noticed (p. 213) the error which takes "possible" and "impossible" as contradictories. And, to make this error more clear, I will begin by setting down once more what I understand by the Possible.* The Possible is (a) that which is partially grounded. It must hence have a meaning, and it must not be inconsistent internally with itself. So much as this is implied in its being grounded by and in the real world. But, beside possessing what we may call this general and abstract ground, the Possible may have grounds that are further and more special. And these grounds may vary indefinitely in amount and so also in importance. There are hence degrees of possibility up to the point where the grounds cease to be incomplete. As soon as that point is reached, the possible has forthwith become real, and we have no longer to do with mere possibility. Further (b), beside its own positive character, we must note a negative aspect implied in the Possible. There must not, whether in our knowledge or in our assumption, be in the world anything which is unconditionally incompatible with the Possible's reality. This is essential, but it is essential also that the above negation should be taken as failure and defect, as the absence, in and from our present knowledge, of anything actually incompatible. To mistake this failure for a positive knowledge that incompatibility is really absent, would be an error entailing consequences that ruin the Possible.

The Possible (we have seen) is so far real. And the Real on its side is also possible. For anything that is positive

* See the Indexes of *Appearance* and *Essays*, and of this work.

in the Possible is owned by the Real, while that which is negative, so long as we confine it to mere absence and failure, does not touch the reality. The Real becomes not-possible only when you qualify "possible" by the addition of *at most,* and so pass beyond the truth that the Real *at least* is possible. But to understand "possible" in the sense everywhere of "possible at most" is to fall into that mistake which we have noticed above. It is in effect to limit your object by that which you can not say holds good of the object itself. And hence a lapse into ambiguity or dangerous error.

If and so far as you assert the reality of what is incompatible, the possible is not even possible; while, on the other hand, if you deny the above reality, the possible has at once become real. What the possible demands is thus the absence from your knowledge of anything really incompatible, together with a partial but positive grounding of the possible. And for me to take mere failure, in what I know, as a real absence of what is incompatible, or again, on the other side, as a denial of complete compatibility, is in each case erroneous. In "possible at least" the emphasis falls on that which is positive though partial. But in "possible at most" the whole assertion is qualified, perhaps ruinously, by an emphasis which tends to become a positive reliance on mere ignorance. "Possible at most" is indefensible except when understood as "known to be possible while not known to be more."

The true contradictory of the possible is to be found in "whatever fails to be possible." And obviously that can not include anything real. It amounts in the end to no more than "not anything at all." The distinction (to pass to another point) of "possible simply" from "conditionally or relatively possible" seems to require no more than a passing notice. And, ending these introductory remarks on the Possible, I will now proceed to discuss the Impossible and the Unreal.

The Impossible is not that which is merely not-possible, and it certainly contains more than the absence of possibility. It would be hardly defensible to insist that, for anything to be impossible, it must first be entertained as possible. But, without exaggeration, it is true that the Impossible, while not-possible, must always be more. For it involves necessarily the

idea of rejection from a positive and real basis. This basis may vary greatly in extent and importance, but unless it is taken as there and as positive, we have no impossibility (cf. *Appearance,* Index). Impossibility (to repeat this) never consists in mere absence, and to be impossible means to be qualified essentially by the above rejection and excludedness. But the mere failure of such rejection, on the other hand, does not make a thing possible, for, with but so much, the positive side of possibility is lacking.

If we go on to ask for the difference between the Impossible and the Unreal, the answer is that, of the two, the Unreal is the more abstract. The Impossible, while unreal, must also be more. If you begin from "nothing," then, in comparison with that, the Unreal is more concrete; for it adds explicitly the feature of excludedness by or from Reality, absolute or relative. And the Impossible is, similarly, more concrete still; since, not Reality, but Reality in a certain character, is now implied as the positive basis of exclusion. A thing becomes impossible when, because of this or that feature of the Real, the thing can not be. The latent inference, with its tendency to suggest the question "why," has thus in the Imposible become well-nigh explicit.

It may repay us, even at the cost of some digression, to remind ourselves here of what we mean by "nothing." "Nothing," we saw, is more abstract than what is unreal or impossible, and in a sense it underlies them. The exclusion by the Real, or again by a special reality, is dropped while we keep to "nothing." Mere nothing is perhaps best described as the idea of a "that" which excludes, and is excluded by, any and every "what." It differs from the idea of mere "being," since, with this latter, the emphasis falls on the positive side. Thus, in the case of "being," the "somewhat" is merely absent, and is not rejected unless you go on to qualify "being" by "mere." With "nothing," on the contrary, the stress falls on the aspect of exclusion, and we have not a mere defect but a denial of positive qualification. But each of these ideas (we may add) is inconsistent. "Being" offers us the abstraction of an empty object, which yet is no positive object, if empty. On the other side with "nothing" we have gone beyond a

mere emptiness and absence. We have now the abstraction of an object which, rejecting all qualification, is forced so, by consequence, to exclude itself.

We must pass on to enquire as to the sense which we give to the Meaningless. The Meaningless, I should reply, is some object which, first (a), taken as itself, is positive, but which further (b) offers a meaning—an idea which it contains—though this meaning and idea is really none. The Meaningless is the absence of meaning from that which is before us as an object which owns meaning and offers it. We have thus a thinking which is empty and is no real thought, not because it excludes its object, but because the object fails. That which is offered as contained in the object, and deprived of which thought is helpless, proves on trial to be lacking.

Of the ideas which we were to examine there remains the Self-contradictory. And clearly all that have gone before can fall under this last head. Though different from one another, these ideas are alike in being all self-discrepant. The object which is itself, so far as it has a meaning which is none, the thinking, where every "what" is excluded by or from the object that is thought, the excludedness, where there is nothing real to be shut out or to shut out—such ideas, with all their possible variations, are each in conflict with itself. And, the greater our effort to hold together in one object these struggling aspects, each in unnatural independence, the more certain the failure in which we everywhere end. Our legitimate result is an alternation between suicide and new birth, with an inevitable return to self-dissolution.

It is this character of self-discrepancy and internal strife which, when we abstract it, is held as our idea of the Self-contradictory. It consists in a conjunction of jarring elements, that everywhere tends to dissolve itself on scrutiny, except so far as it remains fixed externally by error or artifice. For, merely as and by itself, and apart from a conjunction which superadds a unity from without, the Self-contradictory is unthinkable. But, like the other negative ideas which we have discussed, the Self-contradictory has everywhere in experience

a positive side. And it is held together and maintained in existence by this foreign bond, from which, in order to become truly itself, it must abstract, but, apart from which, it could not even appear as a fact in experience. The genuine nature of this unity, necessary though external, has been discussed in my *Essays* (pp. 41, 269, 274, 302), and on the whole subject I may refer to my *Appearance,* Appendix, Note A. The result is that, to realize the nature of the Self-contradictory, taken as such, we have to emphasize and abstract an aspect which, by and as itself, we never could find. There is nowhere, in short, such a fact as the merely Self-contradictory.

The ideas taken as the subject of this Essay can, for most purposes perhaps, be used without distinction. But none the less they differ, and their differences may in varying degrees be material. As against the merely Unreal, the Impossible invites our attention to a feature of Reality, perhaps overlooked, which makes and may be called on to justify the exclusion. And, in distinction again from that which is merely unreal, the Meaningless points to the positive existence and character of that which seeks to offer a meaning. And still more in the Self-contradictory may we even be bound to note and dwell on this aspect of positive fact. It may be disastrous here simply to ignore, or to dismiss as not mattering, the special nature of that being which supports and which makes possible the conflict, and finds perhaps in that discord the moving impulse to vital issues. To insist merely on the contradictoriness and final unreality of some region or element of our world may be hence for ourselves practically to miss the difference between insight and blindness. Any attempt, however, to specify the cases where, in the use of all the above terms, discrimination is required, is not possible here.

If finally the reader asks as to the place assigned by metaphysics to the ideas just discussed, the answer briefly is as follows. Such reality as these ideas possess, is, in the first place, not ultimate. We must deny, that is, that, taken as they are in themselves, these ideas can be real. For their being consists in and only stands by an abstraction which breaks up, and which, if maintained, must destroy the living Reality. But the further question as to how abstraction, being such, can

itself be possible, and can appear as fact—is in the end unanswerable. It is but one aspect of the ultimate enquiry as to how there can come to be such a thing as finite existence. Here, in my opinion, it is useless to seek for what is called an explanation. But, on the other hand, the question how, in the Whole and in the end, all abstract one-sidednesses are made good, can, I think in principle be answered. Nothing in any appearance, so far as that something is in any sense positive, can conceivably be lost; and so much as this seems certain. On the other side, by addition, by resolution, and by reunion in a more concrete totality, the divisions and the conflict of appearances can everywhere be harmonized. And all one-sidednesses, thus transformed, can contribute each its full content to the unbroken and self-complete Reality. But, for a further examination of this great problem, the reader must be referred to my *Appearance* and *Essays*.

ESSAY VIII

SOME REMARKS ON ABSOLUTE TRUTH AND ON PROBABILITY

The reader possibly, in connection with the issues raised in this volume, may expect me to deal fully here with the problem of Privation, together with the attempt made at times really, if unconsciously, to found knowledge on ignorance. But not only would the subject require perhaps too much space, but I should be repeating, for the most part, doctrines which I have advocated in my *Appearance* (Chapter XXVII). The main point is this, that logically mere ignorance is sheer nothing. Ignorance as a ground for belief or for disbelief must always be knowledge, knowledge partial but positive. The suggestion of an unknown "other" or "otherwise" is self-contradictory—it is in the end nonsense and logically nothing—unless we have a known field of Reality within which it falls, and unless, so far, its unknown "otherwise" is a matter of actual knowledge. Now in the case of "absolute truth" I have contended that, since no such field is present, we can not even entertain the idea of an "otherwise." In the sphere of "relative truth," on the other hand, such a field can everywhere exist.

But absolute and relative truths are of course both true of the Absolute Reality, since so much is contained in the very meaning of truth. The former, however, hold good of the entire Universe as a whole, in the sense that they are above, and not within and under, the disjunctions which are made in it. Relative truths on the contrary are subordinate, as falling under and within some distinction to which they are subject. Thus with relative truths we have in principle always that place for an "other" which in absolute truth is wanting. Prior to disjunction we may say that there is no line drawn between truth absolute and relative, just as again, if knowledge could become perfect, this difference would disappear. In a complete system no field for an unknown "otherwise" would

be left. Mere disjunction would there be taken up into a higher form of knowledge; and every truth, showing itself as the detailed and connected self-development of one undivided life, would at once be relative and absolute. But no such system exists, and, so far as I see, no such system is possible. Hence we have a world of relative truth, and yet no less certainly (I have urged) we have truth which is absolute.

And I must here recall that view of the relation of truth to reality for which I have argued elsewhere. This view reconciles, I submit, with the existence of absolute truth the necessary imperfection of all truths. I have shown how the dilemma which threatened us here is resolved. A truth may be imperfect, as failing to realize its own ideal of truth; and yet, if not corrigible intellectually, because no intelligible "otherwise" is there—such a truth none the less is absolute. I am satisfied with this solution, for the explanation of which I must once more refer to my *Appearance* and *Essays*. I even venture (however much this is improbable) to think that my result includes beforehand whatever is true in any opposite doctrine.

There are certain questions to which however I will allow myself to return. There are difficulties which I desire once more to discuss; and, again, on some points I may perhaps lessen the repugnance of the reader against conclusions which I myself have been led to embrace. If I can do no more, I may at least hope to remove some misunderstanding. And I will begin by noticing a class of objections based on Probability.

There is a natural temptation on the ground of what is probable to deny absolute truth. If you take a judgment as a psychical event, there is always, it may be said, a chance that it has no meaning; * in which case obviously there is no question of its falsehood or truth. And, even when we restrict ourselves to real judgments, there must be everywhere (experience seems to show) a possibility of error. And this chance (it may be added) seems not diminished but on the contrary increased, if we confine ourselves to the field of metaphysical speculation. Further, even within this field, it may be urged

* See the Note on p. 155.

that the highest and most fundamental doctrines seem open, most of all, to uncertainty and doubt. And is it not (I may be asked), with all this weight of probability against me, something like insanity for me to insist in metaphysics upon absolute truth?

The old counter-objection, on the other hand, remains to my mind unanswerable.* The above arguments all assume and all rest on the conclusion which they deny. If you can not take as free from all doubt at least those truths on which your knowledge as to probable error is based,—surely your arguments disappear, and in the end you have said nothing. Or, on the other side, if and so far as your arguments hold, they hold not absolutely and universally, but are valid merely in the abstract and only for the most part. Hence your true conclusion is to the fallibility of judgment *in general*, or *in general* to the greater fallibility of one kind of judgment. But evidently with so much you have not disproved the absolute truth and certainty of this or that judgment or set of judgments. Your probability, in other words, is at most antecedent; and, so far as you attempt to make it more, it destroys its own basis. Thus, in all that you have urged above against absolute truth, there is no vestige of a valid argument based on probability. There is a mere appeal perhaps to the discord and apparent failure which prevails in metaphysics. Or there is a reminder, perhaps superfluous or perhaps most needed by yourself, that everything human is assuredly in some way imperfect.

The above question, I venture to think, is really so far settled. It is in the end ridiculous to offer by any argument to prove that fallibility is universal, and there can be no exception here in favour of any conclusion which appeals to probability. Still it may throw light on what precedes and on that which is to follow, if we remind ourselves of what we mean when we speak of the Probable. The reader who is already satisfied can pass on at once to what perhaps he may find more interesting.

I am to touch here on Probability taken in its right and proper meaning, and I assume the reader's acquaintance with the view set out in this volume (Bk. I. Chap. VII.). What I

**Appearance*, p. 620.

will notice here first is a looser use of the term which may result in grave error. We must not confound probability with a mental force of whatever kind which may lead us to act or believe; and certainly not all that comes under the head of approval or assent is probable. To speak of Probability as the actual "guide of life" may hence be misleading, and it would be less one-sided perhaps to confer that title on Faith. In any case the mere feeling or apprehension of greater inward prevalence or weight, on one side as against another, is not probability. For the preponderance here need not be theoretical. It may be merely the vague sense that more of myself, or more of something that I value, is somehow concerned on one side. But in genuine probability I must begin with ideas before my mind, and the result which I accept must be a judgment as to fact. And what is required is not only the feeling that my mental balance inclines towards a certain decision, but I must have a further perception, however dim, that on one side there is more of what carries, and should carry, a conclusion and consequence. Arrived at this point we have reached what may be called reasonable probability; and this grows more rational the more we realize how much of the whole ground for a certain consequence we have before us. But probability is not fully developed until all partial grounds, for or against, are or can be reduced to fractions of one denomination. And let us now (passing from this) go on to ask as to the assumptions contained in Probability.

Probability assumes, first, that the world with which it is concerned is grounded throughout. It deals with a Universe which, taken at any moment, is the result and consequence of a ground, so that the entire ground gives you (I need not ask in what precise sense) this individual whole as a result. It assumes further, within this whole, the reality of limited grounds and consequences. And it assumes that everywhere, whether in the Universe or in a limited case, partial grounds are true and real in proportion as they contribute to the whole individual result. And, above all, we presuppose that in probability the object is self-contained, with the exclusion of anything like chance in the shape of external interference or inward failure. Our entire world must, here again, be taken as rational, so that we refuse to speak of preponderance unless

within a quantity which is fixed.* Within the field of my operations we may say in brief that absolute knowledge is assumed, and that ignorance, like chance, is barred out. Certainly I may know that here or there I have more or less of my required ground, and may be sure of so much, though I can not specify exactly the whole ground, and am able still less to set out the precise fractions. But unless I assume that what I am engaged with is a grounded totality, and that about this whole I know enough to be sure that my partial grounds contribute to and are contained in it, there is an end to anything that can rightly be called probability.

Probability therefore, with every argument based on it, stands and falls with the assumption that its world is self-contained and rational. Its universe is grounded throughout, and admits of no self-contradiction; and, so far at least, this universe must be a system. If there is another world, that world has been in principle excluded, and of so much as this I have a knowledge which may be called infallible. There can be no probability of an opposite, where to admit an opposite as possible destroys probability. And the above result can, I submit, be rejected only so far as the word "probable" is taken in some sense which is really erroneous.

Leaving now the subject of Probability I will return to that which I have taken here as my main topic. With regard to "absolute truths" I shall go on to contend that all the truth is on my side. Not only do I find an "otherwise" in this case inconceivable, but even views opposed to my own seem to urge nothing positive that I can not include and admit. I hold (the reader may recall) that the Universe is such as not to contradict itself, and further I hold that, even in a fuller sense, Reality is One, and is throughout nothing but Experience. These results appear at first sight to be irreconcileable with opposite doctrines, and yet I hope to show how this apparent antagonism may be largely fallacious. And I will begin with those views which may perhaps be grouped under the head of Irrationalism, a term the meaning of which I propose to leave more or less undefined.

* The reader will bear in mind that we are not concerned here with what mathematics for its own purposes may or may not require.

(1) On what positive assertion, I prefer to ask, does Irrationalism desire to insist, which assertion I on my side am unable to accept? Do I hold, for instance, that Reality and Thought are both just the same thing? Do I even say or suggest that the Universe is intelligible in the sense of being explicable throughout? Do I try to resolve emotion and will into ideas and understanding, or leave no place in the world for their proper and different reality? Is it I, in a word, who set up abstractions and bow down before them? Such questions, I think, can all be answered assuredly by No. And if I am told that I deny Freedom, not only is such a statement contrary to fact, but (what is of more importance) I ask the Irrationalist to produce any positive aspect he connects with that word, which I have failed already to include in my own account.* What more does the Irrationalist ask than that every volition should be able to be taken as a new creation from the individual self? Certainly I do deny that mere Chance is anything positive; but I deny also that any one who wants Freedom, and who understands what he is saying, really can desire to have chance.

Further, if it is the fact of disorder and unreason for which the Irrationalist contends, then, with every one else, I accept this fact as undeniable and obvious. On the other hand I refuse to take the fact as absolute and as real by itself, or as anything more than one subordinate aspect of the Universe. And what is the positive result, I ask, that is gained by turning one's back on all else but this "fact", and by worshipping one's own work in the shape of such a sorry abstraction?

Now I do not suggest that the Irrationalist and I merely say one and the same thing in different words. What I urge is that, where the Irrationalist denies and opposes himself to my doctrine, he really has nothing positive to set against it. And, if everything positive on his side is already included in my result, surely I am right in refusing to admit here the existence of an "other." A one-sided and blind emphasis on certain aspects, and the mistaking of some relative truth or fact for an absolute principle or reality, is to me the essence

* See my *Ethical Studies*, and cf. *Essays*, pp. 131-2, and, on the other side, James, *Pragmatism*, pp. 115 foll.

of what I call Irrationalism. And everything in this that is positive, falls under that head of Abstractionism for which in my doctrine a place has been found. See the end of the foregoing Essay, and *Essays,* Index.

(2) I will pass from this to consider something which to me is more important and difficult. In holding that the Universe is One and is Experience, I am met by those who, not denying that the Universe in a sense is one and that it can not contradict itself, on the other hand insist upon Realism or Pluralism. Now how can I maintain that there is no more here than what has been included in my own view? Can I once again insist that what opposes me, so far as it opposes me, is in effect nothing positive? On the other hand, if such a conclusion seems indefensible, the "other" (which, I decided, was nothing) appears after all as real, and so wrecks my absolute truths. For to treat the verdict of writers, no less competent than myself, as error inexplicable and negligible, is not a possible alternative.

We have a difficulty here which I will ask leave to approach indirectly. I will remind the reader once more that I make no pretence to the possession of a perfect system (*Appearance,* p. 541). I can not show how the world of relative truth is connected throughout, or even how its various groups can everywhere be taken as more than co-ordinate. I can not deduce the relative from the absolute, and exhibit in detail how this or that relative truth, and *only* this or that, is possible. If I had a perfect system, I could point out how, given an "otherwise" to my principles, the world disappears. But, as I stand, I can not so prove that, given Realism or Pluralism as true, the world of our knowledge is as to its detail destroyed. I do not admit, I am far from admitting, that the fact of the experienced world, together with its sciences, agrees with Realism or Pluralism as well as it agrees with my doctrine. I am convinced on the contrary that, though here or there the advantage may lie with them, the advantage on the whole is out of all proportion on my side. Still I must admit that the empirical known world, the province of relative truth, can not in its detail be shown to agree exclusively either with the doctrines that I hold or with those

that I reject. And we seem in consequence left here with an opposition which is irreducible and vital.

We might argue that, with so much agreement on each side in detail, it is impossible that the rival principles can radically diverge. And the difference therefore, which parts them, can not (we might insist) be actually that for which we have taken it. So much unity in result must come surely from a common ground. And, unless that ground could lie outside both the opposed principles, their opposition, one may contend, can only be partial. Now, for myself, while I agree that there is great weight in this argument, the question remains as to the sense in which I can possibly accept it. And it is this question that I shall now go on to consider.

It is idle, in the first place, to suggest that both parties mean much the same thing, and that they differ in nothing except the way in which each formulates the common substance. The real problem is, on the contrary, to find that material difference which underlies and produces the divergence of the formulas.

We can not escape here by a reduction of *all* truth to what is no more than relative. For on both sides we are in effect agreed that this course is not tenable. There is on each side an assertion, at least implicit, of the absolute truth that Reality must not contradict itself, and must, at least so far, be one. And on each side the idea of system is used and accepted, at least tacitly, as the test of truth. For whatever view succeeds best in embracing all the facts, comprehensively and in connection, is taken on all sides to come nearest to the Reality. Hence on neither side can every truth be consistently allowed to be merely relative.

But, while rational Pluralism and Monism, and rational Realism and its contrary, seem agreed up to this point, can they not (the question now arises) all agree, beyond this point, to accept Relativism as true? Can they not, while sharing a common conclusion as to absolute truth, unite in drawing a line below which this conclusion becomes inapplicable? The conflicting views, as to the further nature and further unity of the Real, might all, if so, become a matter of mere relative truth?

Now, if this were possible, I for myself am still confident as to the result. I am sure, if I may say so, that on this ground the doctrine which I advocate would still maintain its general superiority.* But how can I accept such a solution, as long as I find both Realism and Pluralism to be in the end unthinkable? I surely can not take the opposite of these to be less than absolute truth, when, so far as I can see, in each case the supposed contrary of my view is, as such, really nothing.†

Hence I seem driven to conclude that whatever positive assertion is contained in Realism and Pluralism must, even against appearance, be embraced and included in my doctrine. And I must now try to show that such a solution is valid. If I have misinterpreted the views which I oppose, that is only because against this defect I know of no remedy.

How then (this is the question) can I understand Realism and Pluralism so as to include even their hostility within my own result? Can I suppose the Realist merely to insist that no experience that we actually have, or can even expect, is quite the same as Reality, or even co-extensive with the entire Universe? And can I take him merely to add that, if Realism is denied, certain aspects of the world such as physical Nature, and, generally, the diversity of finite centres, become inexplicable—and hence to urge against me that a positive side of the Universe, though undeniable in fact, is not covered by my doctrine? Can I, once more, view the Pluralist as standing on much the same ground, and as in short contending that the fact of finite existence, with all its diversity, becomes a thing which, if you embrace Monism, is quite inexplicable? And may I suppose both to add that, if I will but attend to these points, I shall soon conceive of an "other"—an other which is a genuine contrary, and is a positive something, even if I know little more of it than that it makes good

* Cf. here *Essays*, pp. 291-2.

† I can not argue the point here, but to me Realism and Pluralism (so far as denying what I hold) each essentially consists in an abstraction—an abstraction which is not only untenable but is downright illusory. The assertion of the Pluralist vitally depends on that unity which he rejects, and the doctrine of the Realist is thinkable only so long as it still involves that experience from which it claims to be free.

the above defects in my own doctrine? If so, and if our main differences can be put rightly in this way, the solution which I have offered above can, I think, be shown to hold. There will now be nothing positive in Realism or Pluralism which falls really outside the view which I oppose to both.

When I speak of absolute truth, I do not, of course, mean that any man can know everything. I admit and I insist on the necessary incompleteness and imperfection of all truth. Again I agree that no experience of mine, as I either have it, or could possibly have it, is just the same as the Reality. Nature and finite existence, I further allow, are in the end inexplicable. And yet, on the other hand and with all this, I can not think that my account leaves out any aspect of the Universe.

From such imperfect experience as I possess, I not only can but I must conclude to an Experience perfect and complete, which, though still Experience, includes and is all that is real. And however much—and we are not to forget this—remains inexplicable, there is nothing whatever which, so far as I see, stands out as impossible. This is the view which I have advocated in my *Appearance* and my *Essays,* and it is to these works that I must refer the reader for a discussion in detail. But if this main conclusion will hold, it contains and offers, I submit, the desired solution of our problem.

There *is* something positive in what Realism and Pluralism oppose to my doctrine. And this something is on my view both positive and inexplicable. And if I could include it, as it is in its perfect reality, my ideas, I agree, would be superseded, and would be merged in what is higher and, by any mere ideas, is unattainable. But, on the other hand, I urge that this result beyond truth is nothing but the complete development of my truth. Hence in its abstract character this "otherwise" has already been taken up by and embraced in my conclusion. And I contend that, in and for theory, such an abstract and general inclusion is enough. It at least excludes the theoretical presence of any genuine contrary, and it even accounts for that contrary's deceptive appearance. And therefore nothing, I submit, can be shown either by Realism or Pluralism to stand out as an "other" against me: while I, on my side, find, not only that Realism and Pluralism maintain

what is self-contradictory and in the end unthinkable, but, again and also, that they leave unexplained not a less but a far greater part of the undeniable facts.

Further the actual existence of these views, in the character of partial emphasis and false abstraction, is, I fully agree, itself something positive. But even this aspect, I submit, has been considered and included in what I may call my view of the Universe.

I have now remarked generally on the problem raised everywhere by Privation, and on the distinction, again, between absolute and relative truth. I have briefly considered the above questions in connection with Probability. And I have further added a discussion of the difficulty which arises from the existence in actual fact of views opposed to my own. I have ventured here to conclude that, against first appearances, nothing really other than my own main principle is or can be maintained. I will now pass on to deal with a question more or less connected with the previous enquiry, and which deserves, perhaps, more notice than it has generally received.

We most of us, perhaps, have been troubled by a difficulty, in the claim to superior truth offered at times by that which admittedly is subordinate. There are cases where we are led to doubt whether after all, as against a higher truth, we are not more certain of a lower. I am not speaking here of the general opposition of fact to truth, and I am excluding the assurance anywhere due to violent impression or sweeping passion. And I put on one side, again, the claim to absolute or eminent truth made by or for the particular facts of sense, whether that claim is or is not based on what is called Designation. What I have in mind here are those cases where on each side the truth may be called theoretical, and where yet we seem inclined to prefer the subordinate truth to that which evidently is higher.

If our knowledge, we may once more remind ourselves, were a perfect system, no such problem could arise. Of higher and lower alike, we, I suppose, should then be equally certain. And, at the same time, though secured absolutely

in and by the whole, the share in reality held by a subordinate truth would appear as less and so lower. Hence, even where, as in our knowledge, no such system exists, a claim of subordinate truth to superiority, if at first sight plausible, may well surprise us. There are, however, cases where such a claim appears at first sight hard to resist.

Suppose a metaphysician asked to choose between, on the one hand, some principle or absolute truth, and, on the other hand, the knowledge that England was conquered by the Normans or Belgium invaded by the Germans. And imagine again a like choice offered to a mathematician or physicist with regard to something which he regards as an axiom or principle. The decision on each side is to be taken (I would repeat) as merely theoretical. There is to be no question on either side of putting (as we say) the assertion into practice. There is further no doubt, I suppose, as to the historical truth being lower theoretically, in the sense of being less general and more subordinate. And yet what would be the reply of, let us say, a metaphysician, if he were pressed to declare honestly as to which assertion he felt the less doubt? In his perplexity he might take refuge perhaps himself in a question, and ask to be told if he was to speak as a metaphysician or as a man. But, for myself, though I could not everywhere reject this distinction, an attempt here to stand on it would amount to an admission of defeat.

Before, however, I state how I should deal with the choice that has just been offered me, I will venture to digress and notice some points which, though not decisive here, would call elsewhere for consideration. There is, I contend, no criterion save the idea of system. But in an imperfect body of knowledge, like ours, harmony and comprehensiveness, the two aspects of system, must diverge more or less, and this divergence may lead to various doubts and uncertainties. And, in particular, with regard to what is subordinate we may briefly recall two difficulties. (1) Not only does our known world divide itself into groups which seem more or less disconnected and merely co-ordinate, but, further, the amounts of reality contained within these several groups may be far from equal. And, secondly, (2) within each group that which seems con-

tained in it as lower truth may really fail to be subordinate except in one partial aspect. We may be standing, in short, here on a faulty division. And hence, though falling under a certain class, and being, so far, subordinate and lower, a truth may be a consequence in the main from another principle. And this principle, though disregarded or unknown, may be fuller and higher. And thus everywhere, where we compare the values of competing truths, we are liable to be misled by various sources of confusion and error.*

With an apology for this hurried digression I will now go on to deal directly with the choice offered me above. I have to decide, say, between the claims of a great historical fact and of a high abstract principle. And without doubt or hesitation, if things are rightly understood, I take my stand with the latter. The question (here as everywhere) is, How much of my world is contained and involved on either hand, and how much comparatively, in accepting or rejecting either, do I on the whole gain or lose? This issue I must decide in favour of the principle and of the higher truth. And my main task here is to show how, and by what misunderstanding, we are led to suppose that the superiority can lie anywhere with what is lower and subordinate.

Our mistake comes here mainly, I should say, from a common but false assumption. The world which I construct in space and time, the sphere of empirical facts and of mere events, I am prone to take, however inconsistently and perhaps unconsciously, as the one real world. And this wrong assumption may further lead to a mistaken application. I may go on to place within this world, and so by the side of what belongs to it or at least seems near it, some doctrine or principle which, because general, bears in consequence the necessary mark of remoteness and unreality. And I compel the higher truth to measure itself, in these my arbitrary and fallacious lists, against that which, if lower, seems all the more to stand upon solid ground. Now certainly a truth, so far as it is abstract, offers itself thus far as incomplete, and, if incomplete, then, so far, unreal, and deficient at once in fact

* For the two aspects of system see *Appearance*, Index, s. v. *Standard*, and *Essays*, Index, s. v. *System*. And for what follows cf. this volume, I. VI. §§ 8-10.

and in truth. And, further, a higher truth, because higher, may even appear to us as less clear. For what I call my "real world" is the home of distinct alternatives, and of plain and clean-cut divisions between Yes and No. And we not only shut our eyes to the discrepancies of this "real world," but we are blind to the fact that its foundations are everywhere unsound. But its clearness is a result gained by untenable disjunctions and throughout is factitious, however much its truths may come to us as evident in themselves and even palpable. On the other hand, our higher and more general truths (as we have seen) not only offer themselves as remote from fact, and so in a sense ungrounded, but, in addition, their recognized incompleteness may appear to us as inner vagueness and obscurity. Though my principles, I am convinced, are true, they are a long way from my reality; and, though they are certain, yet on the other side I may be at a loss to define them rigidly. I become puzzled when you ask me to state distinctly how one stands to the other, and exactly how much is and how much is not contained in each one. And, when brought down and placed artificially, we may say, on the ground by the side of lower truths, my higher truth may show itself, in this unnatural position, as at once more unreal and more obscure.

Such, I think, is in principle the error which lies unperceived at the base of our faulty comparison; and it may help us to recognize this, if we consider a form which that comparison may take. As a test between competing truths we may be offered a wager. On which side, we are asked, if you had to bet, would you prefer to stake your fortune? Now so long as we are clear that we are here assuming an available Referee, who is in every sense omniscient and will confine the issue to mere comparative truth, I raise in principle no objection. But I object to such a wager, not only because an award may be impossible in fact, but because the alternative, the very terms of the wager, may probably be confused. We naturally assume an "event" with which the judgment of the Stakeholder is concerned. And, since what we call our "real world" is the home and the proper sphere of events, we are thus easily led astray. We are tempted to place falsely the truths compared, both side by side, in this region. Though we may not consciously take each alternative to be such that

it could happen—and still less take it as something that could actually happen to me, or that I, again, could act on directly—this false conclusion still may come. For the imagined wager helps our tendency to regard each competing truth as alike belonging to the world of events.

But substitute for your wager what (as I have shown) is here the genuine issue. Do not think about some "event" or about some alternative ended by a plain Yes or No, but ask yourself as to how much of your whole world is on each side at stake. I do not of course suggest that the known Universe is really separable, but I beg you to imagine it deprived of that which on either side your rival truths represent. When you view things as a whole, what is the comparative amount of gain or loss? Does or does not (to speak in the main) the higher truth, as compared with the lower truth, cover more ground, and really stand for more and mean more? And is or is not the knowledge and reality, involved and concerned in it, superior and greater? This is to my mind the real question, and this question, I should say, admits but of one answer. And I will add, if you please, that the above is here the practical issue, so long as I am not taken to admit that, in the more ordinary sense, the issue need be practical at all.

It may lead the reader, perhaps, to realize better the whole problem and its solution, if I end by offering an illustration not merely fanciful. Suppose (let us say) a man convinced of the truth of Christianity, and rightly or wrongly to understand Christianity as the unity of God with finite souls, a reality at once consummated and eternal and yet temporal and progressive. Christianity is to such a man a main aspect of the Universe, conscious of itself above time, and yet revealing itself in the historical growth of spiritual experience. And imagine the same man asked to compare with this principle the truth about some happening in time. I will not instance such events as the virgin birth and bodily ascension of Jesus of Nazareth, but I will take the historical assertion that Jesus actually at a certain time lived and taught in Galilee and actually died at Jerusalem on the cross. And by "actually" I mean so that, if *we* had been there, we should have seen these things happen.

"All such events," our supposed man might reply, "are, if you view them as occurrences, of little importance. Enquire by all means whether and how far there is good evidence for their happening. But do not imagine that Christianity is vitally concerned with the result of your enquiry. Christianity, as I conceive it, covers so much ground, fills such a space in the Universe, and makes such a difference to the world, that, without it, the world would be not so much changed as destroyed. And it counts for much that this eternal truth should have appeared on our planet (as presumably elsewhere), and should here (we hope) be developing itself more and more fully. But the rest, if you will take it as mere event and occurrence, is an affair so small—a matter grounded by the very nature of its world on so little—that between the two things there can be hardly a comparison."

The principle applied here is that on which I have based myself throughout. The attempt to decide off-hand between truths, however different their orders, leads naturally to the assumption that these truths are to be placed much on the same level. And hence the one may be raised and the other degraded, in each case without warrant, and with a result inevitably mistaken and often disastrous. If truths are to be compared there must be first an enquiry into the respective nature of each. And the truths which at first may seem nearest to us and most palpable and least obscure, may turn out to be in reality the most wavering and ambiguous, and most abstract and remote, and dependent, more than all others, upon false alternatives and one-sided assumptions.

Still, even if it is here unnecessary, I am led to recall another aspect of this matter; and I will venture once more to speak through the mouth of my supposed Christian. Imagine him asked whether, thinking as he does, he cares nothing for "the historical truth" of Christianity, any more than for the detail of Christian creeds and symbols—and possibly his answer might surprise us. "I understood you to be speaking," he might reply, "about mere temporal events and happenings, just as you might speak again about mere material things such as this crucifix or that flag. These by themselves are all abstractions, mistaken for realities by what too often is

called Common Sense; and these most assuredly are not the genuine facts and beliefs of religion. Religious events and symbols, though on one side things and happenings in your "real world," are something on the other side whose essence and life is elsewhere. Identified with what is beyond, they are no mere occurrences in time or things in space. They represent, and they are the actual incarnation of, eternal reality, and for the least of them a man might feel called on to die." And, whether we can quite accept this answer or not, the main principle at least is certain. What we sometimes call our "real world," our constructed order of facts and events in space and time, is in truth an abstraction. We live really only so far as we live in the concrete, and use events and things, however confusedly, as the appearances of that larger life which transcends mere space and time. And, when we perceive this, we comprehend how something may at once offer itself as in comparison fuller and more true, and yet in reality cover and contain less of what works and what counts in the whole of things. On the other hand, failing to perceive this, we everywhere may fall into mistake, and noticeably here when we seek reflectively to measure one truth against another. But the theme on which I have now entered is too large, by far, for any brief discussion.*

* The reader may compare here my *Essays*, Chapter XVI, not forgetting that its doctrines are based on my *Appearance* throughout.

ESSAY IX

A NOTE ON ANALYSIS

Since the foregoing Essays were written I have had the advantage of consulting Prof. E. G. Spaulding's elaborate "Defense of Analysis" in *The New Realism*, 1912. And in consequence I have been led to believe that some further remarks may here be useful. For Prof. Spaulding's defence, which I take to be largely representative, seems to me to fail in knowledge of that which it is called on to meet.

The issue, would, I think, be simplified if the defender of Analysis would deal with a question which is, I presume, both familiar and fundamental. Is every result of distinction to be taken as an independent reality or not? And, if our answer is affirmative but subject to exceptions, then what are these exceptions, and upon what principle are they made? The modern Realist, so far as I know, has left these questions unanswered.

Passing this by I will remark on some of the points which Prof. Spaulding has raised. And in the first place (I) I notice that he offers me a dilemma. The man who objects to analysis does (Prof. Spaulding says) stand upon that very ground which he himself denies. For certainly this man accepts terms and internal relations as ultimate realities. And yet, since he can not get to these except by way of analysis, his objection is suicidal. Now how far and in what sense the foregoing dilemma may hold against this or that writer, I am not called on to discuss. The important point is its tacit assumption that ultimate reality is and must be relational in one of two ways. The view for which reality is not relational, either ultimately or as first given, and for which relational truth, though necessary, is not true in the end, seems, if not unknown to Prof. Spaulding, to be ignored by him as negligible. And hence his dilemma, if satisfactory to him, may be called, I suppose, no less satisfactory to myself. Why Prof. Spaulding, and those with whom he agrees, do not understand that for a person like myself all relational truth (and

that means without exception every possible form of predication) is in part irrational and untrue, I am unable to see. But, if the fact is so, I at least submit that the responsibility is not mine.

(II) In the second place I can not think that an argument, used by various writers against the ultimate truth of any relational view, has been understood by Prof Spaulding. This argument urges that what has been called "the fact of relatedness" falls outside of both the relation and the terms when these are taken merely as themselves. Now to deny the existence of this fact of relatedness would seem plainly ruinous. The fact therefore must be shown to be in harmony with the relational view. But, while this view (the argument proceeds) is bound to account for the fact of relatedness, it is unable to do so. It is, on the contrary, where it is not satisfied with blind ambiguity or open bankruptcy, condemned to an illusory search for a relation between the relation and the terms. The above argument, to my mind, is both unanswerable and fatal, and I hence was curious to see how it would be met in a Defence of Analysis. But my curiosity has ended, once more, in disappointment. The terms and relations are, each by its own nature, external one to the other, and yet on the other hand we are confronted by the fact of their unity. And surely here is a problem which can not be solved by the repetition of phrases like "stand in relation" (p. 175), or again by a reference to what is called the "organizing relation" (p. 162). This latter I am even forced to regard as a monster which, though convenient, is merely factitious. On one side it appears as a relation external to all terms, while on the other side it seems to reduce to an actual unity such terms as, by some unaccountable dispensation, it has come to stand in with and to embrace. Or, being in truth no mere single relation but, on the contrary, a formal arrangement or scheme, it imposes itself (wherever this comes to happen) on an external material, and so informs that with its own unity. The above device seems old, and, for a makeshift, is perhaps venerable, but it hardly will serve. For, even if we can think that a relation or an arrangement, by itself and apart from terms, has any meaning at all—and even if we claim to identify at pleasure a relation with a whole relational arrangement—we

have on our hands, still unsolved, a familiar problem. We have not yet faced the vexed issue of the connection in fact of an external form with an independent matter.

(III) I come next to the apparent statement by Prof. Spaulding that "the empirical evidence" (p. 169) is all in favour of his view. While he does not venture to deny that analysis makes a difference to what is empirically given, he scarcely seems aware of the objection to analysis which has been based upon this very ground. But, apart from "dialectics," there surely exists an objection which is at once "empirical" and familiar: "Since what I start with in fact is this, and what analysis leaves to me instead is that—I therefore can not but reject, at least in part, the result of analysis." Here is a mode of objecting to analysis which no one (I should have thought) could ignore. But, as this seems otherwise, I will go on to insist on what really should be superfluous.

Any defender of analysis has to meet the view, not only that his doctrine of external terms and relations is a self-contradictory abstraction, but also that its opposite is that which in experience is actually given. I, for example, if I may take myself as an instance, have maintained the following positions.

(1) Everything, that in any sense is experienced, is felt, and what in particular is felt is always in feeling. It falls, that is, within an immediate experienced whole, which whole itself is not relational, and is not subject to any strict application of the category of Whole and Parts. Attempting here in predication to apply that category, you are forced to recognize that something in the end has been left outside. You have omitted, that is, the aspect of immediate inclusive oneness.

(2) There is, and there can be, no such given thing as a mere object, of whatever kind. There is experienced always with the object a content not included in the object, a content which is positively felt. An object therefore, as an object, is never more than an abstraction. And no feeling, emotion, desire, or volition, can ever by any device be resolved into objects or terms in relation.

(3) And, apart from this, even within our "objective" world, we find experienced wholes, objects lower and higher, which (taken either internally as wholes, or, again, taken in

parts of themselves) plainly and palpably do *not* consist of terms and relations, and whose character is therefore, in consequence, more or less destroyed by analysis. To tell me that, when I perceive a round green object, what I actually experience is a mere correlation of round and green, with each other or with some further term—is to ask me to treat with contempt at once my senses and my intelligence. Inside the object, as, at least so far, it comes to me, are neither terms nor any relation; and, if in any theory there must be such, I know what to think of that theory. And the above result to my mind is less a matter for argument than of willingness to see and to accept plain facts. I have pointed out elsewhere (*Essays,* Index, s. v. *Occupation*) how Mr. Russell (attempting to save his theory) is driven to invent and to postulate relations where visibly there are none. And the same criticism, so far as I see, would in principle once more hold against Prof. Spaulding.

(IV) But, little as I can accept Prof. Spaulding's main conclusion, there is much in his essay which to my mind has great interest and value. Recognizing that the truth of analysis depends on the universal and ultimate validity of the idea of Whole and Parts, he examines in detail the progressive application of this principle to matters increasingly concrete. And the reader who follows him can hardly, I think, fail to profit by the enquiry, even if the result is to strengthen in his mind an opposite conclusion. The idea of Whole and Parts (long ago shown to be self-contradictory in principle) breaks down in practice more and more evidently with every fresh stage of its attempted application. And Prof. Spaulding himself (as I understand him) is finally led (p. 241) to make an appeal, in defence of analysis, to a "non-rational element in nature," which "so far as our present knowledge goes" refuses to accept his main principle. That the principle itself is in fault and was itself more or less irrational from the first, will be the conclusion that others, now long since, have accepted and urged.

ESSAY X

A NOTE ON IMPLICATION

We may perhaps agree that it is right, at least in philosophy, to try to call things by fitting names. And to employ the term "implication" where you assume that there is no more than an external conjunction, is to my mind a case of indefensible misnomer. It is surely misleading to speak of B as implied in A, if A cannot be said in some sense to contain B. And, if there is to be genuine implication, this "containing" (we shall further find) must in a sense be indirect. It will hold good (that is) only through and by virtue of a whole, a unity which can be distinguished from A, and in which A and also B are both comprised. Thus A and B, and their whole, can be said each of them to imply and indirectly to include the others.* And it is thus, and only thus, that a proper and true meaning can, I submit, be given to the word implication.

This meaning comes from and, we must add, rests on that which is called immediate experience or feeling—a stage of mind which remains present not only with, but even to some extent still within, the ordinary perception of an object. In the sensuous inherence of qualities in a subject you have given

*Where and so far as the qualification of a whole is taken as immediate, we can not, I think, merely with this, speak at all of implication. On the other hand, where you distinguish A and B as different, and as each of them distinct from the whole, the whole itself, *as so taken,* is *not* a whole qualified simply and immediately by its contents, any more than A or B *is* one simply the other. Thus, while we now have implication, that implication is indirect, because we depend throughout on a further whole, which includes at once A and B and that whole which we have distinguished from and opposed to A and B. But this further inclusive whole, on which implication depends, is taken itself as immediate, and so not as itself qualified by way of implication. The above of course involves a contradiction, which (I would, however, once more urge) must be accepted as being in its own place legitimate and necessary.

to you, without any relation, "parts" which both *are* the whole and one another, and yet (as taken separately) are *not* either. And it is an appeal, however unconscious or denied, to an experience of this kind on which depends the entire sense given, when any sense actually is given, to predication and judgment. Thus we are forced, I think, to the conclusion, that, since all predication is relational, all predication (no matter under what category) is in the end self-contradictory or unmeaning, unless it is made subject to a condition which it involves and yet can not express. To assert simply that one thing *is* another is to fall into nonsense; while to qualify the above assertion by "also," or "and," or "together with," or "related to," is to offer a remedy which merely in a more perplexed form repeats what in the end is still irrational. As regards "also," Hegel (as I understand him) has shown how this term has no sense apart from that immediate unity of which it is a survival at once sublimated and degraded. Far from solving rationally the problem raised by "is," the "also," "and" or "together," has merely involved itself and its victim more deeply in that self-same process by which immediate fact is developed into logical discrepancy. And, speaking for myself, I must add that, while I can not doubt that the relational and discursive use of intelligence is unavoidable and requisite, I do not see how on this road, at any stage of it, and however much we seek to better or transform the process—we arrive at a real solution of our original problem. As at the beginning so at the end we have, I think, to appeal to the fact and principle of our immediate experience. But, to gain its final realization, that principle must be taken as utterly all-embracing, and as not only below but as also above and beyond the relational form. We must regard it, not merely as an underlying base, but as also a sphere which from above includes and transforms all relations—a world which from every side of life (feeling, emotion and will, intuition and thought) is fully developed and perfect, though in detail not throughout verifiable by the finite mind.

Implication then (it has been my purpose here to urge) has no real meaning apart from the internal evolution of an inclusive totality. And the notion that one single self-contained entity (whether a term or a relation) could by any possibility

imply another, ought, I think, to strike the mind as at once in conflict with language and in the end devoid of all sense.

And, partly as a consequence following from this radical mistake, we have the false doctrine that implication can in truth be one-sided. But both the principle here and its application to fact depend to my mind on a vicious abstraction. In the case of change and succession we may, for instance, hear it said that, where A precedes and implies B, B on its side, far from implying A, may even occur as itself sequent on something else. Death, to recur to a well-worn instance, follows (we are told) from the taking of so much arsenic, while on its side death need imply arsenic no more than it implies a variety of other possible causes. But this assertion of one-sidedness forgets that the fact of succession can be experienced only within a whole which is "present," and, if removed from that inclusive unity, has ceased to be any actual or possible occurrence. And the belief that, starting with such an experience, of A before B and B after A, you can mutilate this concrete whole at your discretion, and then proclaim, as a result, that from one side it has been defective from the first —may be called even surprising. The given fact, if you will look at it, contains the aspect of "A before B" and of "B after A" each at once and in one. And the presence here of but a single "asymmetrical" relation is an assumption which to me is monstrous. This is an epithet which I have also to apply to various other supposed discoveries of single relations, where the one single relation is a mere abstraction, not agreeing with and even ruining the genuine fact which is before us. Certainly, if, breaking up your actual experience of succession, you withdraw B from the ruined fact, and take this abstraction as a naked entity, or, again, qualify it surreptitiously by concrete conditions other than those in which you found it—then of course B, if you treat it so, may cease to imply A. And, of course also, A, if treated in the same way, would cease, exactly in the same manner and to the same extent, any longer to imply B. And the reason why and how a man can imagine that the taking in the abstract of arsenic implies factual and concrete death, while he rightly insists that more than mere death is needed to show the antecedent taking

in fact of arsenic—seems to myself to be a matter more for psychology than for logic.*

If we are not to abandon logic and seek to rest in mere Irrationalism, there is an assumption (I should have thought) that we are all forced to make. We must assume that B, if unconditioned or under conditions that are not altered, can not be "after A" and be also "not after A." Whether it is or is not possible to find in fact anywhere a pure case of causation, I need not here discuss. But I insist that, if anywhere we have B with a preceding A, then, given B, the precedence of A is, unless the conditions have been changed, an immutable truth. The sequence of B on A, and the antecedence of A to B, are, each alike and equally, an inseparable aspect of what we have accepted, and what (though always under an unexpressed condition) remains true, so long as it is allowed to remain itself. But mutilate this truth by abstraction, or distort it by the tacit introduction of discrepant conditions, and the truth has been changed and falsified. Such falsification results either when (to repeat this) you seek to transform A or B into a self-subsistent entity, or when again you, knowingly or blindly, substitute for the original conditions an altered set.

And we may add that an assertion of incompatibility in fact, between "A before B" and "B before A," is not true unless it is made conditionally. The qualification of Reality by both is excluded only where Reality itself has been taken (tacitly or explicitly) in a certain way, and, very probably, as "designated" under some form of "This." See my *Appearance* and *Essays*.

In any case the idea that, given one or more self-subsistent and self-contained terms or relations, anything can be really implied or could logically follow—cannot fail, I think, to issue everywhere in a train of errors.

* We have to do here, I should say, with an unconscious identification of logical consequence with the sequence given in volition. And we have further a common but serious mistake as to the extent to which, in volition, the result as deed is separable from, and so may cease to imply, its own beginning and process. There is of course a counter-mistake as to the incoming process from, and product of, that outer world which is given in perception. But I have no space here in which to develope these matters. On the question of "Non-reciprocating Causal Relations" the reader may with advantage consult Mr. Joseph's *Introduction to Logic*, Chap. XXII.

ESSAY XI

ON THE POSSIBLE AND THE ACTUAL

I am not to enquire here generally into the ultimate nature of the Actual and the Possible. That enquiry would open the question as to what in the end is meant by Reality, and would tend to include the whole field of metaphysics. My purpose in what follows is, standing on what I have elsewhere laid down, to state my own opinion as to the opposition of Possible and Actual, and further to call attention to certain problems which, though vital, appear to myself to be often slurred.*

The possible I take to be the partly grounded and real, and this is opposed, I think, to the actual in three senses. What is actual may, that is, be real (i) as not grounded, or as (ii) fully grounded, or (iii) as both of these at once. But of the above three senses it is the second which I take, everywhere perhaps, to be essential. The actual as, and so far as, it enters into contrast with the possible, will bear always, I think, the meaning of fully grounded.

Passing on from this anticipation of what will follow hereafter I will proceed to give examples of the above-noticed three senses of "actual."

(I) We find the first of these everywhere where we have something in the form of an immediate experience. Here internally the "what" and the "that" are taken, so far, as inseparably in one, and there is no reference nor any relation to anything beyond or elsewhere. And there is hence no "because" nor any grounding, nor is there any sense here in which the idea of the possible can be applied. What you have so far is a "real" which (if you please) may be said to lie below possibility. If then you insist on raising here the question of "actual or possible," you have tended, with this alternative, to transform the original fact. Contrary to what you

*Cf. Essay VII. And see *Essays*, Index, s. v. *Possible*, and again *Appearance*, as also the present volume, the Indexes.

presupposed, you are by implication asking whether your immediate real is indeed, after all, self-contained and self-sufficient; and how far, *not* being immediate but grounded, it fails to be more than grounded incompletely.

Under this first sense of actual would fall (we may in passing note) such things as self-subsistent and independent truths or entities. But for a further consideration of this point see below, p. 708.

(II) We come next to the actual in the sense of that which is grounded fully; and I shall take as an instance here the sphere of things as happening and enduring in time—the region, that is, which often is called the "real world" of Common Sense, and which is better termed "existence." To this world of actual "fact" the possible is opposed, I think, for a double reason. In the first place, though such a world is not and can not itself be given as immediate, nevertheless resting upon immediate experience and lying, in a sense, close to that, it implies it (we may say) intimately. And, in the second place, this "real world" is in practice assumed (rightly or wrongly) to be grounded throughout. It is hence opposed to the merely possible, which, as but partly grounded, necessarily fails to be actual. This latter of our two meanings tends, I think, unconsciously to dominate our minds when the possible is viewed as that which fails actually to exist.

(III) Coming now to the third sense in which the actual is opposed to the possible, my example must be the Universe or the absolute Reality. For a justification, however, of what follows, and which here there is no space to explain, the reader must be referred to my *Appearance* and *Essays*. In what I call the Absolute we find the two characters, of immediate experience and of grounding, both at once and both perfect. Each of these aspects is there realized in something which, though it is beyond each, includes both. And yet the possible, while falling in a sense within this actual Reality, must, as applied to the Absolute or the Universe as a whole, be rejected as meaningless. The Universe contains and it exhausts within itself all possibility and all actuality, but the Universe itself is neither merely actual nor again merely possible. And even to enquire here whether some "other

world" is or was possible, is to deviate probably into nonsense. Such ideas and questions can be rightly entertained, only so long as we perceive that, at least in their offered characters, they in the end come to nothing.

And (before proceeding) I would recall a consequence which, on my view, must here follow. Where you have a genuine individual—one, I mean, which is really self-contained —its possibility and partial reality must be taken as falling wholly within itself. And to speak of "another" beside it as even possible, is *ipso facto* to pass—and, in that passage, to carry the being of the given individual—into a world beyond itself, and so to destroy its self-containedness. You have treated it in effect not as self-real, but as itself one among other appearances of a wider Reality, and, with and like the others, as itself a "case," and as the instance of a "class." But obviously, therefore, on a view like mine, there can be no individual which in the end is perfect, save the one Reality.

We have seen that the Possible, as what is partly grounded and so is real but in part, can be contrasted with the actual in three ways. As against the possible the actual may (i) be that which is itself not grounded, or it may be, again (ii), the fully grounded. And, thirdly (iii), the actual may be a real individual above and superior to all grounding, while yet containing within itself and completing that aspect of things. And, further, the actual, so far as it enters into a contrast with that possible which it rejects, tends (I have suggested) to characterize itself always, for this purpose, as the fully grounded.

I will pass on to deal next with a variety of questions, mainly in connection with the second of the foregoing heads. I mentioned "existence," or the "real world" of what is called Common Sense, as an example of what is taken as actual in the sense of "fully grounded." And it may be instructive to consider some views on which objections to such an instance can be based. Existence, I may hear, is so far from being merely one example of what is actual, that on the contrary "existence" covers and exhausts the whole field of actuality. Or I may be told that, even if the above conclusion is too wide, yet at least the actual, as the fully

grounded, rests entirely on "real existence" as at once its sole foundation and one perfect example. And it may repay us to examine this contention at some length.

I have insisted elsewhere (see my *Appearance* and *Essays*) that the sphere of "existence," the "real world" of Common Sense, is no more than a construction, which, however indispensable, is in the end precarious. And, if this conclusion holds, the idea that only in "existence" can anything actual be found seems clearly untenable. Nor, even if we pass this by, are our difficulties ended. For we have on our hands the whole region which may be called "imaginary." Far from having but one world we all, I presume, live in worlds many and of diverse kinds. And even to conclude that but one of these worlds is "real" will hardly warrant the result that no other can be actual.* On the contrary this distinction of "actual" and "possible" is used habitually within those very worlds which, taken as imaginary, we oppose to "existence." We speak, for example, of actual and possible occurrences in a novel; and how could this be, if such events were, all alike, merely possible?

To this objection, I agree, a partial answer can be found. There is a valid distinction between that which is absolutely possible and that which, on the other hand, is but possible relatively or possibly (see the Index). The possible always is partly real, but that reality, which it involves and on which it stands, may either be real absolutely, or, again, may be something less which we take for our purpose as real. Hence the imaginary existence, though merely conditional as against that existence which is absolute and actual, may, by a legitimate abstraction from its conditional character, be used as actual and real. And, by a permissible artifice, this secondary existence may further be taken to serve as itself the "actual" basis of possibilities within itself, and so on indefinitely. Hence in any possible world we can have possibilities to which this world is opposed as actual. But the meaning of "actual" here (it may be urged) is no more than relative and borrowed. It is lent to us for our convenience (we shall hear)

*With regard to the possibility of the "imaginary," the case of the impossible offers really no difficulty. See *Essays* and this work, the Indexes, s. v. *Impossible*.

by that one world of existence and of actuality which alone in the end is genuine and real.

This reply to our foregoing objection may, I think, so far hold, if, that is, we admit the untenable assumption on which it depends. And yet, with merely so much, we have not done with the "imaginary." For suppose that in something imaginary we recognize what we call an "ideal." This ideal, on the one hand, does not, as such, exist, and yet, on the other hand, undeniably somewhere it is present and "there." And certainly it may compel us to regard our "real world" as *its* possibility, and so to look on earth after all as but a possible heaven. Are we here to insist that such an ideal, except as a psychical occurrence, is not actual? Or have we now to admit the reality of two worlds, each of them actual, and yet, each alike with regard to the other, no more than possible? The one complete reality would be, if so, that our world of "existence" should become itself an actual heaven, while our heaven, to actualize itself, would descend and itself pass into one thing with our transformed earth. But neither region, taken so, will own apart from the other an exclusive actuality, nor, as against the other, could either claim for itself to be more than real in part and so possible.

We have seen that, if by "existence" we mean the "real world" of fact and event, an attempt to find here alone that mark which distinguishes actual from possible ends, so far, in failure. And the prospect will grow darker when, leaving the "imaginary," we go on to take into account the nature of what we call "truth."

We may begin by noting that (as we found in the case of the imaginary) the distinction of actual and possible holds within the world of truth itself. We speak of that which is true possibly, and of that which is more or less possibly true. And we mean here that, though we have ground not sufficient for the assertion of a truth as actual, yet we have nevertheless some ground; and that hence we have reason, less or more, for maintaining the same truth as in various degrees possible. Now I take "actuality" to stand here for complete against incomplete grounding. It neither means nor, to my mind at

least, is it based upon presence, as such, within the world of "existence."

The ultimate connection of truth with Reality, and again with that which "exists," can not be discussed in this Essay. It opens problems for the solution of which I am compelled to refer elsewhere.* I must assume here that truth's meaning—that meaning in which truth consists—is never its existence. And, even where the truth is about existence, the above denial still holds; for our meaning here is still other than the fact of even its own existence as it is now asserted by us. But in affirming actual as against possible truth we have no need, everywhere or anywhere, to appeal to something that lies outside truth's own kingdom. We have, on the contrary, an appeal always to that which, within truth's world as a whole, has a more or less complete as against a more or less partial foundation. The idea that actuality is here a mere loan, and that its real owner everywhere is that which "exists," is in short indefensible.

Certainly the world of truth is on my view pervaded by inconsistency. It claims on the one hand to be itself actually a grounded system, where every element is there and each is actual. And in such a world the "more or less actual or possible" can hold only with regard to differences in amount of reality. Truths will be more or less dependent, as reigning over and as standing on a less or greater area of the common ground, and as containing, each within itself, less or more of the total system. And yet, on the other hand and no less, the world of truth must be "discursive." It must be a region where not only implication and connection between truths is actual throughout, but where also actually, within this whole,

* See my *Appearance* and *Essays*. Truth, as truth, must, on my view, fail to satisfy its own claim, and must remain imperfect, even as truth, so long as it falls short of the entire Reality. Further, I agree that truth in the end is not truth unless it is thought, and so is actually thought by this or that mind, and therefore is thought at some one time. But, for our logical purpose, we are compelled to abstract from this aspect, as again we must ignore the final union of truth, existence, and reality. We must in logic assume that truth, as truth, is itself out of time, and that, as truth, it does not and can not exist; though on the other side (to repeat a distinction employed in *Appearance*, p. 488) all truth must "have" existence.

there is movement from one point to another. And, since, to move, you must start and must have a point from which to begin, and since this point of departure is not itself, as such, involved in and grounded by the system, your necessary movement must hence in a sense be called arbitrary (cf. Essay I, 614). And thus your conclusion and consequence can, viewed so, be termed so far conditional and merely possible.

Hence, though truth claims to be a system where nothing is changed and where all at once is actual, it claims no less to be a world in which development holds good, and where partial knowledge and ignorance and possibility must in consequence be found. Nor within logic is there any remedy but to admit and to affirm both sides of this total claim, however inconsistent and however discrepant the one with the other. Their final reconciliation, in principle only and still not in detail, can be reached only when the boundaries of logic are passed.

But, inconsistent otherwise, logic can without hesitation reject any claim made by "existence" to contain and to exhaust the whole sense of "actuality." We have shown, on the other side, that "actual," unless its meaning is specially confined, need have no reference to occupation of any place within the sphere of what "exists." Every truth is something taken out of time, and yet, notwithstanding this, can itself, as against another truth, (we have seen) be less or more actual. Our knowledge has, without doubt, always its date in existence, can come and go, can begin and can cease to exist; but these expressions, when you pass from knowledge to truth itself, become really senseless. Nor can you dispute this by an appeal to the process admitted within logic, and by insisting on the necessary inclusion there of beginning and end and of sequence and movement. For if the starting-point in an inference may be called arbitrary, the suggestion that, as the beginning of a logical development, it itself with its ensuing process is dated in time, seems contrary to plain fact.

And it is useless further to object that, though itself undated, this point of departure borrows, however unawares, from the world of temporal events its essential character. The mind's presence, at and in a certain point of truth's world, is, I agree, inexplicable by logic. On the other hand this pres-

ence is, I insist, no loan from that secondary construction to which the world of existence owes its origin and being. It consists, on the contrary, in immediate feeling such as underlies and in every sense is prior to all that "exists," and itself is the foundation on and from which our real world of events is developed. This primary experience shows itself again within logic, when, as applied to existence, it is termed Designation or pointing.* Employed, as above, to mark and distinguish a point of departure within the world of truth, this felt presence (I would repeat) is no temporal event, nor is it borrowed from what we call Time. Inexplicable by logic, it enters logic and the realm of truth only in the sense that for a logical purpose it serves to place us at a particular point in truth's world, while for every other purpose it remains outside and elsewhere. Hence, so far as we verify here a genuine case of actuality, that will fall under the first of our three meanings of "actual." For it consists in the fact of feeling not yet developed by construction into what we call "real existence." And this fact, while manifest in and necessary to the world of truth, still remains itself an alien, and never itself appears as a member in any grounded whole.

We have seen that to identify everywhere the actual with the "existing" is an error, and to take the meaning of actuality as in the end borrowed from existence is not defensible. The actual, as against the possible, is found (we noted) in three cases. (i) In the first of these actuality lies below the plane of inference and grounding. It belongs to feeling or immediate fact, and in a secondary sense attaches itself to anything viewed as in unbroken unity with the felt. But (ii) the "actual" may be taken as what makes part of our "real world of existence," or, again, as what inhabits the "worlds" of imagination or of thought—so far, that is, as the above worlds, or some part of their contents, are for our purpose here

*On Designation see *Appearance*, Index, s. v. *This*, and *Essays* s. v. *Designation*. What may be called the puzzle of Designation consists (we may remind ourselves) in the following—that, while founded essentially on that which is below "existence," it on the other side, as issuing in a selective judgment, transcends (willingly or unwillingly) the existing fact, and passes as truth into a realm which has no choice but to be above and out of time.

regarded as a grounded whole. And, thirdly, (iii) we saw that actuality is the mark of an individual, an individual that is at once above mere immediacy and, again, superior to any mere grounding. In such an individual, as a complete totality, both the first and second of these aspects appear as at once comprised and transcended. But we noted also that, taken as against the possible and as itself entering into that opposition, the actual in every case tends to show the second of our three meanings. It bears the sense of that, which, in contrast with what is partly grounded and but partly real, claims to be itself real fully since grounded completely. And we must add that the "possible," when taken in its one proper meaning, is to be found nowhere but in the region of ideas and truth.

Wherever you have a whole which is viewed as grounded internally and throughout—there anything, within that whole while yet short of it, may be considered as either actual or as only possible. It will, because of the whole, be the real possibility of anything else in the whole, and will thus, and so far, be, even itself, real and actual. Or again, as apart from all the rest, it will be itself but merely possible, because, as thus apart, it is no more than imperfectly grounded. Viewed as grounded in and warranted by the complete whole, each of the contents of that whole is actual, while, on the other hand, so far as anything shows a lack of that full guarantee, it will remain merely possible. And, wherever and so far as we do not take our stand upon a grounded totality, there is left to us no genuine meaning or sense in the word "possibility." Further, with regard to the Universe or the ultimate Reality, we saw (p. 700) that, while this contains and in a sense has and must have possibility, the assertion or the supposition of itself as possible is really nonsense, while we must even be careful as to what we mean if we go on to add that the Universe itself is actual.

It may, I hope, throw light on the result we have reached, if I end by contrasting it with an opposite view. But the reader will note that I can attempt to state this view simply in general, and more or less (I should add) in my own way.

If we adopt such a view, then in the world of truth there is no such thing as possibility. A truth, if it is to be true,

must be so, and must be actual. And, since it is actual as itself, and not as something else, every truth must hence contain nothing but itself and must fall wholly within itself, and so can in no sense be dependent. But, being thus neither beyond itself nor short of itself, a truth can not be possible. And, since no truth is dependent, none can therefore be consequent, nor, as applied to truth, can there be any meaning in "implication." A truth (to repeat this) is itself and neither more nor less than itself, and every truth is actual always, and in no case can be consequent or possible.

As for the world of truth (if on such a view we are to speak of any "world"), this world, unless it is to be limited to one single truth, must consist in a plurality of independent truths. But this plurality can be no system to which each truth can be said to contribute something of itself. It is, on the contrary, no more than an external "Together" or "And," in which, or in respect of which, the several truths stand (we have to say) conjoined. But, since anything that we can predicate of this whole falls outside of each truth, and so (it would seem) of truth altogether, we can hardly speak of our "world" as if it really made, or indeed could make in the end, any difference to truth.

In such a world at any rate it seems clear that there is nothing like implication or dependence, either of one part in or on another part, or between any or all of the parts and their aggregate or whole. And still less, perhaps, can there be a process or sequence whether temporal or even ideal. Nothing in the world of truth is or can be anything but actually and simply what it is itself, and, if possibility is to bear a meaning anywhere, that meaning must hence fall somewhere outside of all truth.

I will not remark on the contradiction inherent in any "world" or "whole" which is such that, though itself undeniable, it seems forced by its own nature to destroy the essence of whatever beings can enter it—while again and on the other side, apart from these beings, itself is nothing.* I prefer to

* The reader is referred here to my *Essays*, Index, s. v. *And* and *Relations*, and to *Appearance*, Index, s. v. *Relations imply a whole.* I may add that by bringing in "external relations"—whether these are, or again are not, themselves taken to be truths—no difference is really made to the above problem of the "world" of truth.

insist here that, on anything like the above view, the entirety of what we call the discursive side of thought must lie outside of truth's world, and, together with "implication," "process," and "consequence," must be all swept away into some alien region. There is hence a complete breach between, on one side, truth and, on the other side, the movement of inference and knowledge. We have a sheer dualism in which knowledge and truth are fixed one apart from the other, and are sundered by an impassable gulf. And even if, in freeing truth from possibility, the world of truth has itself in any sense been left standing, the price that we have had to pay threatens something like ruin.

Possibility, if, keeping still to the above view, we seek to follow it, has now to be discovered somewhere outside of truth, and even (we seem forced to add) outside of all knowledge, so far as knowledge is true. And, for the view which we are considering (I do not attempt to deal here with every other view that could be offered), there seems to remain but one place left. The "possible," falling outside truth, must lie in the "other world" of what "exists." It is hence in the realm of "existence," if anywhere, that we must look for possibility.

But what we find is that "existence," itself so far like truth, seems actual throughout and essentially. If anything exists it is "there," and, what is not there as existing, certainly does not exist. And the "possible," if so, will neither exist nor be true. To say that a truth "has" possible existence, or that something that exists "has" possible truth, is meaningless if there is no such truth or existence to "have." And, if we reply that what we meant was that some truths do actually exist, and that some existences are actually true, we have still failed to reach the possible. For to predicate existence of truths, or to qualify existences as true, seems not only in each case to entail a contradiction, but, in both cases alike, seems, even at that cost, to remain still imprisoned in actual fact. Hence we must add that, while (however inexplicably) this conjunction of truth and existence does occur, we do not know how, or in how many, or in what cases it happens or not. So we merely insist that it *may* happen; and

this, and no more, is really all that we mean by "possibility." But, with only so much, the possible seems left without any positive sense at all, and must consist simply in our ignorance.

And, since the possible has thus vanished, we, renewing our search, are driven to look for it, now at last, in neither of our two worlds. The possible must be something that can float, however ambiguously, between both spheres, and, while belonging to neither, can in some sense partake of both. Some such middle region we have then to take as the final home of possibility.

Truths, in themselves actual, may be possible also, in so far as they show themselves and somehow appear in the world of existence. And what exists may be also possible in so far as it refers beyond itself as fact, and thus (we may say) at least moves or points in the direction of truth. Things that exist may thus illustrate and furnish instances of truths; and truths, as therein reflected, may so far be perceived in existence. But whatever images and phrases we may employ, prove, on examination, to be all devoid of sense, unless we allow them to suggest the very thing which they have been forbidden to signify. For, to mean anything, they must, in effect, deny that the worlds of truth and of existence are really apart; and they must in effect assume that truth's being extends, itself beyond itself, into existence, while existence itself contains and so in part rises itself into truth. In short, unless truth and existence are neither of them real independently, each in and by itself—unless they are not things merely somehow collocated or muddled mechanically from the outside—unless, on the contrary, as members in and of one common world they are themselves connected in their own natures, and included each as an element in some grounded whole—there is no real sense or meaning in which possibility can be used. The possible is left on our hands as something that we are indeed compelled to recognize, although, even perhaps as an illusion, it remains in the end inexplicable.*

*I may perhaps remind the reader that we can not get rid of the problem of the "possible," or indeed get rid of any other problem, by pleading that we are concerned here with merely one of our own "ways of taking the world." For our "way with the world" seems undeniably a part of the world itself. Hence we are bound to under-

The above criticism, however tedious, of a one-sided view—a view stated, I would repeat, in my own way, if not to suit my own purpose—has succeeded, I hope, in throwing light on the special subject of these pages. I will allow myself, in what now follows, to insist on some more general results, which I have advocated elsewhere and can perhaps hardly urge too often. Unless, from the first and throughout, we admit the claim of truth, I do not myself see how it is possible to speculate at all about truth; and, if we admit that claim, then, whatever it is, we must admit it without reserve and completely. But this, as I think, we can not do, if we attempt to make truth stop short of knowledge, or even to limit its world so that "the true" fails in the end to include the total reality.* On the other side, if we take courage thus to endorse truth's claim to the full, we can not reach a view of truth in which truth is really consistent with itself—any more than by limiting truth's claim we can succeed in the end in maintaining self-consistency, by no matter what artifice. And our sole remedy, I have urged, is to take truth as one of those inseparable aspects of the Whole, which, to be realized in finite minds, must in a sense fall apart, and must assert themselves each as more or less distinct, if not even as independent each of the rest. But—since each aspect, on the other hand, implies the Whole—each, in the very assertion of itself, must contain and claim that which carries it beyond its own being as apart from the rest. The Whole, to be real, must appear in what seem separate provinces, none of which, on the other hand, divided from the rest is truly real, and each of which naturally is led to arrogate more to itself than can be held consistently within its own limits. None the less in the Universe or the Absolute Reality, though how in detail we can not understand, the entire mass of the above claims is positively made good, without abridgement and in the

stand the world so that it will intelligibly contain, and itself own, what we call "our way with it." Or else, failing that, we should admit that we do not make any pretence of understanding either the world or our own way, so as to justify the assertion involved above in our "*merely*." With regard to the whole problem of Appearance, Error and Truth, I would refer the reader specially to my *Essays*.

* See my *Appearance* and *Essays*.

end with perfect harmony. If there is reason to think that such a conclusion is impossible, I at least have found no such reason; and for affirming this result as true and actual I possess ground which at least to my mind is sufficient. And I would add that this view, taken merely as a working hypothesis, if only it is applied not one-sidedly but all round, will exhibit, even as thus employed, such a general superiority as, at least to myself, is evidence of its truth.

ESSAY XII

ON THEORETICAL AND PRACTICAL ACTIVITY

The distinction between theory and practice can never, I presume, lose its theoretical importance. And, though I have little to add to what I have already written on this subject, a brief consideration of it here may perhaps be of service. And the main conclusion, which I have to advocate, may be stated as follows. There is no such thing as a mental activity which is merely practical, any more than there is one which is simply theoretical. We may indeed descend to a level where as yet we can speak properly of neither, but to have either by itself as an experienced fact is downright impossible. Theory and practice are equally and alike abstractions from concrete fact, where everywhere, with one of these aspects, you find its counterpart present and implied. A mental activity may be called "practical" because the side of *doing* is for our purpose here important and eminent. And, on the other hand, where the aspect of *knowing* is our immediate and main concern, we may call an activity "theoretical," because that side of it here is what claims our attention. But to set up either of these aspects as that which can exist in given fact without the other is to embrace a dangerous error. It is an instance of that tendency to take the relative as absolute which, more or less everywhere, leads us astray in speculation as in life, and on every hand lures us into imprisonment within some false alternative. For there is in the end no region or province of mere theory or again of bare practice. And it is not true merely that one of these sides of experience has influence on the other side. The further and fuller truth is this—that neither side without the other is in fact actual or even possible. All theory or contemplation has, as a part of its own being, a practical aspect; and every practical activity contains, involved in its own existence, a feature which is theoretical. Hence we can term a mental state, or a realm or province of our experienced world, theoretical or practical

—*never* because it is merely one of these two, but *only* because one of the above aspects is emphasized here as predominant, and, for the purpose in hand, is singled out as essential.

I will now proceed first to show that all theory involves practice, and next to explain how in all practical activity an aspect of theory is contained. The doctrine that in "doing" the stress is laid on alteration of existence, and that in this change the distinctive meaning of "practice" is to be found, will be taken, once more here, as the foundation of what follows.*

(I) The thesis that all activity which is theoretical, or in any sense contemplative, must also be practical, calls, I think, for no long defence. For, where I am active, I must do something, and, where anything is done, something happens and a change is made in existence. And by existence I understand our "real world" of "things" and of events in time. Certainly in some thinking and perception my state may be predominantly passive, and it is a tenable view that the experience of myself as active may in some cases be wanting. But, putting on one side a contention which I am unable here to discuss, we may with confidence insist on our general conclusion. If I am active, I must do something, and hence, however theoretical may be my activity, it must involve a result that is made and done. And, since this result implies a sequence in time and a change made at least in my existence, it must therefore be practical. And want, desire, and will, must be recognized in fact as necessary aspects of truth. This to me is as clear as it is evident again that no truth is possible in the end except for a mind which thinks.† And hence without further discussion I shall go on to assume that without exception all activity is and must be practical.

On the other hand I can no less confidently reject any view which identifies with its practical aspect the main essence of thought and theory. An alteration made in existence,

* See p. 506 of this work. Maintenance (see also pp. 19 and 517, Note 13) of existence against change, the reader should note, will fall under the head of alteration. See *Essays*, p. 83; and, for the meaning of "practice" generally, see the Index of that volume.

† See *Essays*, pp. 334 foll.

I agree, is necessary for thought; but still this aspect, however necessary, is not that in which theory and truth consist, but on the contrary must in comparison be termed incidental. The real essence of truth, as also of beauty, in a word is ideal, and it is impossible that it should itself lie in an altered fact. The end aimed at and gained in theory is the qualification of Reality by that, which, as such, is taken out of the flow of time, and does not, as such, happen or exist. We have an abstraction here, I agree, but an abstraction of that which is so essential that apart from it there is and can be in fact no theory or thinking. To deny so much as this on the ground that also more is implied would to my mind be senseless. And, on the other hand, any attempt to argue that less than this will serve, and that in the bare aspect of practice the distinctive essence of theory can be found, is compelled, so far as I have seen, to ignore or to conflict with the plainest fact.

We have concluded so far that all theory has a practical aspect, and that, apart from that aspect, it (like practice) remains a mere abstraction. But I have contended, on the other side, that such an abstraction is necessary. I have urged that there is a difference between theoretical and practical activity, and that only in this difference is to be found, as against practice, the essence of truth.*

(II) From the above I proceed to insist on a complementary result. If theory involves practice, practical activity on its side contains an element which is theoretical, and, shorn of that necessary aspect, is in fact reduced to nothing. Taken *merely* as practical, practice becomes a bare abstraction which never actually could exist. This conclusion I regard as certain, but I am forced by want of space to content myself here with a brief statement, and to refer the reader to that which I have argued elsewhere. I will however first note, in passing, that by "activity" is to be here understood only that activity which is in fact experienced as such.

*Where we take truth as knowledge, and view knowledge as my state, the reader will note that the above statement needs qualification. A greater emphasis must now be laid on the aspect of my psychical existence, maintained and otherwise altered. On the whole matter discussed in the text, I would once more refer to my *Essays;* see the Index.

(a) Practical activity, in the first place, can not consist in a mere sequence of events and in a consequence which simply happens. An alteration of existence is, by itself, clearly not an activity. And practice in the proper sense involves, on my view, an idea which carries itself out into the changed fact, and, by and in that issuing change, so realizes itself. And, apart from the self-realization of an idea, there is not, I contend, any such thing as an experienced activity.*

(b) And, in the second place, if there is an idea there is also a judgment; for an idea apart from a judgment, as I have argued elsewhere, is no more than an abstraction.† But since obviously, as I think, a judgment can not fail to be theoretical, we have thus involved in the essence and in the heart of practice an element of theory, and, without this aspect, activity as practical has ceased to be itself. The reader will note that the above conclusion depends on two steps, neither of which can I here attempt to justify at length. I assume, first, the presence of an idea in all experienced activity; and next I assume, with every idea, the necessity of a subject, which, however little we may notice it, is qualified by that idea. But, if this is so, the result will hold that all practical activity contains, as one of its features, a judgment, and thus, in and of itself, implies theory.‡

(c) And further, since in practice the idea is felt as in opposition to the existing fact, the subject, which the idea qualifies and to which it belongs, must itself be at once over against the mere fact, and yet actually real. A real world, other than what merely exists, is hence involved in the essence of all practical activity, and something belonging to such a world is, in practice everywhere, judged to be real. But, if

* Beside what I have written in my *Appearance* and *Essays*, I have considered this question at length in *Mind*, N. S., Nos. 40, 41, 44 and 46. I am naturally aware that the conclusion which I advocate has been, and still would be, denied, or otherwise rejected. But I am forced here to restrict myself to the above reference to previous discussions. I have, I may add, failed to understand the apparent denial by Prof. James of the existence of any real difference of opinion on the main question. See his *Essays in Radical Empiricism*, p. 165.

† *Essays*, Chap. III.

‡ See *Essays*, Index, s. v. *Ideas*.

so, the whole conclusion which I advocate appears to be proved. Theory involves practice no more than, on the other side, practice implies theory—each alike being an aspect abstracted from the given concrete fact. And if you reply that, taken *merely* as practice, practice keeps to its own business, and thus at least ignores the presence of any judgment such as has just been described—you have, I think, confirmed my result. For you seem yourself now to have agreed in effect that mere practice is in actual fact no more than an abstraction.

It may assist us to remark on some errors which tend to obscure what I take as the one defensible view. And (i) I will begin by noticing a mistake on which here I do not propose to dwell. In speaking of the judgment involved always in practice I do not of course assert the presence there of a conscious and formal predication. To say that, in every experience of a something "not there" and "yet to be," I realize to myself that there is a world other than and opposed to the actual fact, and that in this world I knowingly place my idea as real—would to my mind be ridiculous. For no such consciousness as the above belongs necessarily to all judgment, nor can it belong to any judgment if that is taken as below a certain level of reflection. On the other hand judgment actual in its full essence, though not as yet reflective, is a fact which to me is familiar and constant; and it is in this sense of judgment that I have insisted on its necessary presence in practice.* And a failure here to keep the right path may in two opposite ways bring disaster. We may deny the implication of any judgment, and perhaps of any idea, in practical activity. Or, on the other side, we may insist on the unfailing presence there of one or both in a form which collides ruinously with the actual fact.†

(ii) Passing from this point I will now deal briefly with a second mistake. In this it is admitted that idea and judgment are present in all practical activity, but judgment and idea are taken to refer merely to a future event. Their completed issue and result in a consequent fact is that which (ac-

* See above, p. 626. And cf. *Appearance,* pp. 366 foll., and *Essays,* pp. 32-3.

† See *Mind,* N. S., No. 44, pp. 21 foll.

cording to this view) is affirmed by the judgment. Hence (it may be added) there is no world other than that mere sequence of events in which existence consists. The facts, as they happen, are everywhere the one sole reality, and it is nothing (in any case) but the future fact which is anticipated in practice and so judged to be real.

How far, and in what sense, there must be in practice always a reference to the future is a difficult question, and for a discussion of it here there is hardly space.‡ But, apart

‡ I do not myself admit that in all practical activity the idea must contain a reference to the future. Certainly the "something," which the idea asserts as real, must always be discrepant with existing fact. And in every case of practice I agree that this discrepancy must be felt. The idea is felt, that is, as in conflict with existence, and as striving (you may add) towards a change and an altered future. But whether this aspect of a modified hereafter must in every case itself enter into the idea's content, appears to me doubtful. The idea moves towards the future, and so far I agree; but is this movement always asserted in and by the idea? How far (a) must that which in practice I feel as a "not-here," be also even felt as a "not-yet," and a "to be hereafter"? It is when this question is answered that we arrive at the further problem—"How far (b) does and must all that I feel in practical activity, itself enter into that which the idea affirms?" And, in particular, is a future change in what exists always itself contained in the idea, so that this feature may be called essential to our experience of practical activity?

But, passing from these questions which, I admit, are not easily answered, I would insist on what follows. The aspect of alteration, and of the change in existing fact to be made by the idea, if not always present, tends at least to be developed; and, where it is developed, it will naturally pass into and make a part of that which is asserted by the idea. And, where and so far as this happens, I agree that in practice the idea refers to that which is to come and is coming, and so itself looks to the future. But, while maintaining this, we must go wrong if we fail to add that something else is here also essential. While asserting a changed "hereafter," the idea on the other side can not cease to affirm this its content as actually real. What we have gained is that the reality which the idea asserts, and which conflicts with existing fact, is qualified now additionally as that which is to alter the fact, and so to realize itself in the coming change. And both of these aspects at once will now be essential in and to practical activity. Hence, without the affirmed reality of that which, none the less, is to realize itself in the coming "hereafter," and which yet itself is so qualified *actually and now,* the essence of our experience as practical will have been missed.

It is idle to object that such a conjunction of aspects contradicts

from this doubt, the view stated above can, I think, be shown to be untenable. For, even if there is nothing real but the course of events, a future event can not be real *now*, either in itself or for us, unless it ceases so far to be future. And a present anticipation of it, unless the qualification of "in idea" is added, would appear to be senseless. Hence, if judgment affirms of what is real, it can not, so far as I see, refer to that which is merely future. The subject which in judgment is qualified by the idea must be actual and now, and unless this subject is taken as the mere present fact, it must inevitably be something which is more than and is beyond events. But, if so, we have, in judgment and in all practical activity, a world other than bare events and above mere existence—however much this "other world" realizes itself in the lapses and happenings of time.

And you can not escape by falling back here on a more primitive experience in and for which the present, past, and future are given (you may contend) all in one, and come as the mere aspects of an immediate whole in which they are all now and all at once. For there is here as yet no reality taken to consist in a succession of facts which occur. At such a

itself, if some such contradiction is contained in the actual fact. And, however little we can show how the contradiction implied in concrete experience is in detail brought to harmony, to seek peace by the mere denial of either element is mutilation and ruin. For the very meaning of practice is that something, real in another world, is to realize itself in the world of existing events. If by denial, or even by counter-emphasis, you become blind to the aspect of change, you are left with an ideal that you can but contemplate as standing fixed above you in Heaven. And fasten your eyes on time's process, and regard the future as something which is merely to come about or to become done—and you have shut out that ideal, emptied of which the future event or action has become worthless, since it now realizes nothing. Remove in short the contradiction, and you have abolished that which makes practice to be itself, as a fact and as a human value: while to fall back on Time as something which throughout its process has standing reality, even where we dare not add that, as past and future, it actually still or already exists—will hardly assist us. Such an idea does but offer us the old problem at once unsolved and aggravated, because fixed in a form which, so far as I see, precludes all possible solution. On the subject of this footnote the reader may be referred further to *Mind*, N. S., No. 44, and specially to pp. 21 foll.

stage of development no world of serial existence has been constructed, nor is any idea of it as yet possible. And we are still left with the question whether and how far that world, when it appears in our experience, does not imply and depend on a one-sided abstraction from the entire concrete fact.

We must then reject any view for which the reference in judgment is to what simply is future. Reality as a bare succession of passing events is itself self-contradictory; for, taken as one process, it involves obviously more than any mere event or events which severally pass. And the idea of a future fact, which is to happen and which does not now exist, is itself in fact possible, only when and so far as it qualifies, openly or covertly, a reality which is something beyond and something more than mere events.

(iii) "But your conclusion," it may finally be objected, "will not hold, since that view of judgment on which it stands is fundamentally wrong. If indeed the judgment about what happens were itself more than what happens, the case might be altered. But any such assumption as to judgment is wholly untenable. There is not only in judgment no reference to anything more than the course of successive events, but there is (to speak strictly) no reference even to so much as the events themselves. For the essence of a practical judgment, if not of every possible judgment, does not lie in a reference. It on the contrary consists itself in the very fact of a sequence that happens. A judgment therefore is not (if you will) *about* the future, but this is because the judgment itself *is* the passage to the future; and the issuing event, and nothing but the event, is the truth or falsity of the judgment. And, since the sequence (it must be added) is here not one of *mere* happening, but issues from and is itself *behaviour,* it will therefore be false to say that theory and practice alike are one-sided abstractions from the concrete fact. For the genuine and entire concrete fact is to be found, and it consists, in our behaviour—which surely is practical."

On this third erroneous view I do not propose here to dwell. I have stated it, and I have had to state it, as I have been able myself to understand it; and I can hardly suppose that this statement is adequate. For, whether viewed from the ground of psychology or of logic, any such view is to my mind

in palpable and gross conflict with the evident facts. A criticism of the idea that knowledge consists in a mere sequence of events will be found in my *Essays,* pp. 153 foll. But with regard to the doctrine advocated by Prof. Dewey,* that doctrine involves to me so much confusion, both psychological and logical, that I can hardly suppose myself to have apprehended it rightly. Still I am bound to add that the difference and the real issue, between Prof. Dewey and persons like myself, never seems to me to have been understood by him, or, at the least, seems never to be set forth intelligibly. And with this I must leave the consideration of objections likely to be raised against my view as to the judgment which is involved in all practical activity.

The failure to recognize that mere practice, like mere theory, is an inconsistent abstraction, and the attempt to take it as a superior if not as the sole and ultimate reality, brings collision with fact. And the gospel of "Practice for practice' sake, and everything else for the sake of practice" leads, if followed strictly, to a result which in practice is ruinous. For if the end is "doing" in abstraction from that which is carried out and done, and if there is to be no ideal world which claims reality above the course of events, we seem in the end left without a criterion of better and worse. Hence we have to fall back, I presume, on quantity, and must insist that, without regard to what is done, the more done is the better. And with this we embrace the "Neo-Darwinian" creed of modern Germany, and set up and worship, in the place of good and right, the inhuman idol of abstract force. Or we may think to save ourselves by some stupid gospel as to human progress in general, or by the blind superstition that at least any new mental creation must, we can not say why, turn out well. But again, first assuming falsely that whatever satisfies is merely practical, we may deviate into an inconsistent result, and may in effect conclude that in *general* human satisfaction lies the test of all ultimate worth. Value will thus, however illogically, have now become our criterion, and this not only to judge in the more narrow sense, between "better" and "worse," but as a touchstone also to decide universally be-

*In his *Essays in Experimental Logic,* No. XIV.

tween false and true, and to separate the unreal from reality. Here, whether we fall back, ruinously once more, on an abstract Hedonism, or, again, admit real differences of intrinsic worth within the concrete nature of our various kinds of experience—we shall in either case have abandoned our principle of practice for practice' sake. Developed in short from any side, and applied in no matter what direction, an ideal of mere practice can not fail to condemn itself as indefensible.*

We have seen that, just as theory or contemplation involves practical activity, so on its side practice contains an inseparable aspect of theory. Neither of these distinctions can stand for a concrete given fact, but each, apart from the other and taken by itself, remains no more than an abstraction always in part unreal and at times dangerously false. And the reader may ask whether, if so, the use of such terms and ideas can anywhere be justified, since, with each of them, we are forced to admit that it is in the end untenable.

The answer to such an objection must depend on our general view as to truth and error. For myself abstraction, inconsistency, and one-sidedness, belong necessarily to the path of knowledge, and entirely to avoid such errors would be to forgo the attempt to understand. A wholesale apprehension of things is (to speak in general) not possible; while, on the other hand, to learn piecemeal implies analysis, artificial sundering, and limitation. Hence, in the case of no matter what constructed result, we shall be left with some external conjunction and ultimate inconsistency. And everywhere the question is whether and how far, for the purpose in hand, this aspect of error is justified by what on the whole we gain by its use—by its success, that is, in solving problems theoretical or practical or both together and in one. If any distinction is thus useful, then certainly so far we have truth. And it is only where, in life or in art or science, we ignore the "so far," that our license forfeits its right and begins to harden itself into sheer error. We have then imprisoned ourselves in some one-sidedness, good perhaps, so long as it is but relative, and we seek, thus walled in, to shut ourselves out

*On the matter of the above paragraph see *Appearance*, Index, s. v. *Hedonism*, and *Essays*, pp. 317-23, and Index, s. v. *Practice*.

from the movement and life of that world which only as the complete Universe is in the end true and good and absolutely real.

The above distinction, then, between theoretical and practical activity I take to be useful and necessary; and it holds true, therefore, so long as it is not fixed as a hard division. For no activity (we have seen) is merely one of these things without the other. An activity may be rightly distinguished as practical or theoretical so far as either aspect is taken to be eminent; so far as one aspect, that is, (though never alone) predominates and is emphasized, so that, for our purpose, the presence in fact of the other can here be ignored.

For the essence of this distinction I may once more refer to my *Essays* (pp. 101 foll.), and the main conclusion there reached is, I think, correct. In practical and theoretical activity alike, an idea realizes itself, and the two so far do not differ. But we have "practice" where the aim, end, and result of the process is taken to qualify the existence which is altered, and so is predicated of that fact. On the other hand, where and so far as the result does not consist in any change made in fact, but is taken, on the contrary, to belong to and to qualify a world above and beyond the mere course of events, the activity so far is called theoretical or contemplative. But a fuller discussion of this point will be found in the pages to which a reference has just been given.

Any such distinction, I would repeat, becomes erroneous if taken as a division which sunders life into separate spheres, or hardens the aspects of an unbroken experience into independent facts. Thus we need not leave the life called theoretical in order to verify the existence of practical struggle. And, apart from this, we have already noticed that knowledge itself, where taken as a possession and as something acquired, has in itself so far become practical (p. 715 note). For in this aspect it qualifies the existence of its owner, just as, on the other hand, when viewed as truth, it belongs to and is the adjective of a world beyond the mere course of events. And hence to the question whether a man is or is not what he knows, there is no answer save through distinction. Again, from the other side, when we consider moral conduct, which undeniably is "practice," a similar result is visible. That

formed character or single deed which, always or but for a moment, makes the man what he is, so far qualifies existence. But none the less that deed or that character may strike us as the manifestation of an ideal inhabiting a realm beyond events, and lifting whatever reveals it above the mortal sphere of chance and change.

A one-sided emphasis on what in the widest sense is theoretical or contemplative, with a one-sided ignoring of its necessary aspect of life and will, may, even from the theoretical side, entail disaster. For more or less it may result in the starvation of our ideal into secluded emptiness: while, if, revolting here, we deviate into a counter-emphasis on practice, we have taken a road that may lead through an opposite one-sidedness to equal ruin. An existing world of mere events, with an activity that means no more than their change, is surely itself an abstraction, most paltry and unreal. And if practice is to bring nothing from a higher world into this region of what happens, then, however much it may *do,* its activity and its result will have no practical sense or value. And the higher the level, and the greater anywhere the achieved gain of our practice, by so much the more will it have risen above and have left below itself the naked falsity of a practice for practice' sake. Everything that is worth our having is (you may say) our own doing, and exists only so far as produced by ourselves. But you must add that, in the whole region of human value, there is nothing that has not come down to us from another world—nothing which fails still to owe its proper being and reality to that which lives and works beyond the level of mere time and existence.

It is only, I think, in religion, and in whatever, if but for a moment, rises into religion, that our one-sidedness disappears. The separation between existence and the ideal world is here broken down finally, and the abstracted elements of theory and practice become the inseparable aspects of a concrete and all-inclusive unity. The existing world is, here in the end, no more than the ideal experienced as fact—the ideal that, as itself the will for Good, carries itself out into the course of events, and so from every side is real. But this consummation, while in a sense it is beyond all else in life, yet even in religion must remain in part imperfect. The harmonious re-

moval of every discord is still for us something which can neither anywhere, as such, be perceived nor in detail understood. It contains inconsistencies which, refusing to be theoretically solved, are made good only by faith.

It may bring, perhaps, this Essay to a fitting end if I deal briefly with some points raised or suggested by the writers in *Creative Intelligence*. This volume (published in 1917) describes itself on its cover as "the first considered *pronunciamento* of the pragmatists as a school." And, though venturing no judgment on such a point, I have found the book interesting, on account, partly, of the false issues which seem to swarm in its pages, and of its amazing ideas as to that which it takes as the one alternative to its own doctrine. And I will allow myself to use this work as an invitation to myself to set down briefly some views, which I, who, I suppose, am hardly a pragmatist, maintain as true.

(1) Experience is not mere knowing. It also is feeling, doing, enjoying, and suffering. The mirror-theory of truth, as mere contemplation, is an idea long ago exploded and is quite contrary to fact. On the other hand it is false that all experience falls under the head of psychical activity, if this means (a) that such activity is everywhere its main essence, or even means (b) that in all experience there is an activity of which we actually are aware.

(2) All activity without exception is practical, in the sense explained in this Essay, but not all activity is practical either simply or even mainly. And in the end no possible activity can in fact be only practical, since mere practice is really no more than an abstraction.

(3) By an activity which we call practical we should mean that which for our purpose is so emphasized, and which is practical (we may say) predominantly and eminently. And, on the other side, by an activity which is theoretical or contemplative we should understand that which is so, once again, in a sense which is eminent. We mean an activity taken so far as it serves to reveal something ideal—something which, though not as such making part of the course of events, is still none the less real.

(4) Theory begins with a conflict which can be rightly emphasized as practical; but merely in such a conflict and its solution theory does not anywhere consist and still less could it so end. For we advance to an interest which itself is theoretical, and to collisions and to efforts which essentially belong to theory. Thus again we develope an interest which is in itself æsthetic, and which, however it may begin, in the end is itself not practical. Our aim in life and our "plan of action" is never practical simply, and to take our sole object as mere doing seems plainly absurd. And we saw above how confusion and blindness on this head may lead to practical error. It may result in the immoral formalism by which the idol of naked force is (however unconsciously) set up and adored (see above, p. 721).

(5) The world is experience in which "object" and "subject," the activity of the Universe and of each sentient being, are throughout in one and are indivisible. Truth, for instance, implies at once the activity of myself and of the Universe in me. And, as my knowledge, so my conduct is inseparable from the process of the world which wills and realizes itself in me. And to sunder the aspect of conduct from the other aspects of experience, that experience which belongs to the world and myself in one, is to mistake mere abstraction for reality.

(6) All truth is, if you please, an anticipation and prediction. But it is so only because truth, being all essentially "out of time," holds good *therefore*, on the other hand, of any and of all times. Hence we can anticipate and can predict that in some one, or again in any future situation, such or such a truth will still hold, and may hence perhaps be verified hereafter in existing fact. Even the understanding that from the same premisses (whenever I come again to think of them) the same conclusion will follow, may thus (if you insist) be regarded as a prophecy of the future. But to assert that in any further sense every truth is essentially the foretelling of a future event, is to collide with fact in a way which to me is obvious and grotesque.

(7) All theory is an experiment made on given Reality. It is thus all also, if you please, a hypothesis which is verified in practice. A truth is held as true only because on trial it

comes as an expression of Reality, as that expression which we discover to be the only one which works, or to be at least the one which works best. And, since we come into contact with Reality in a succession of events, our theory may hence be taken as a trial and as a verification which is repeated constantly and renewed. But this does not mean that a theory either consists in mere events, or must even refer to them. The real Universe is something larger than a mere course of temporal facts. And we may remind ourselves here that, so far as our world is taken to include *possible* events, it has, at once and thereby, become something that has passed beyond the region of actual existence.

It is by an assumption that we judge that whatever is true will be true always, and will be always verifiable, though perhaps in fact never verified in the future. And we assume this to be true because this belongs to the meaning of truth, because, if in the proper sense we are to think at all, we have to act on the above assumption, and are forced so to act because there is literally nothing else for us to do. The idea of anything opposite can not, in other words, be here so much as entertained; since any supposed opposite turns out to be either something not really opposed, or to be something which, as itself, fails to be any actual idea.

The above verification may itself in a sense be called practical. For certainly it is active, and it implies certainly an alteration of my existence. And, directly and indirectly, it must of course involve some further issue in change of fact. But, when you take this activity as itself and in its distinctive essence, then (as we have seen above) this activity is not practical merely, nor, when you keep strictly to its proper sense, is it practical at all.

(8) The task of philosophy is not to reconstruct the world in detail. Philosophy can attain, I think, to no more than what we may call the general and abstract character of the Real. This character, however, is enough to serve as a criterion of reality and of truth and goodness, though it remains a criterion which by its nature must (to repeat this) be called not particular but general. But to urge that therefore it holds of no more than an unreal world of mere concepts seems to me quite ridiculous. The result of philosophy must

of course be expressed in concepts, but that result is, none the less, the issue of experiment made on the concrete Reality. It holds therefore not of some world apart, but, so far as it goes, of our one actual and living Universe. And hence we have a real knowledge, so far as it goes, of that Universe, and we possess a criterion which, once again so far as it goes, is absolute.

If philosophy in something like the above sense is not possible, I think myself that there is, and that there can be, no philosophy. A "program for action," unless so far as based upon a knowledge of the real world, is a thing which, except by an illusion, no one surely could call philosophy. I would not assert without qualification that it is impossible to base a philosophy on what may be called practical value.* But the condition to be implied in any such attempt is that value is to be taken throughout as the sole criterion of truth and reality, and that the results (whatever they may be) which follow, are to be worked out and accepted. But I regret to add that (to judge from what I have seen) no attempt so radical is to be expected from anything which calls itself Pragmatism.

*But see my *Appearance*, pp. 373-4, and *Essays*, Index, s. v. *Criterion*.

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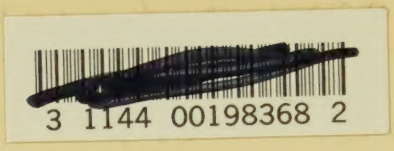
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